Docket No.

219630US2

OFFICE IN THE UNITED STATES PATENT AND

IN RE APPLICATION OF:

Takashi KITAGUCHI, et al.

SERIAL NO: 10/073,969

GAU:

2851

FILED:

February 14, 2002

EXAMINER:

FOR:

IMAGE INPUT APPARATUS

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☐ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- Attached is a list of applicant's pending application(s) which may be related to the present application. A copy of the claims and drawings of the pending application(s) is attached.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, P.C.

Marvin J. Spivak

24,913 Registration No.

Joseph A. Scafetta, Jr. Registration No. 26, 803

Customer Number

22850

Tel. (703) 413-3000 Fax. (703) 413-2220 (OSMMN 05/03)

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LIST OF RELATED CASES

Docket Number	Serial or Patent Number	Filing or <u>Issue Date</u>	Inventor/ Applicant
219630US2*	10/073,969	02/14/02	KITAGUCHI et al.
246897US2	10/743,092	12/23/03	SUZUKI et al.

WHAT IS CLAIMED IS:

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1. An encapsulated document structure comprising:

a document information file storing document information that is a substance of expression of a document; and

an operating program file storing an operating program that materializes the document information, a limitation being given to the operating program by a security function when the operating program is interpreted and executed by a computer,

wherein the document information file and the operating program file are encapsulated as a single document.

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2. The encapsulated document structure as claimed in claim 1, wherein the security function of said operating program file is controlled based on

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Related Pending Application

Related Case Serial No: 10/743,092

Related Case Filing Date: 12-23-03

specific decryption key information for decrypting encrypted digital information.

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3. The encapsulated document structure as claimed in claim 2, further comprising encapsulating means for encapsulating said decryption key information, said operating program file and said document information file into a single document.

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4. The encapsulated document structure as claimed in claim 3, wherein encapsulating means encapsulates said decryption information, said operating program file and said document information file into a single file.

5. The encapsulated document structure as

claimed in claim 3, wherein said decryption key information is signed and encrypted by a third party authority.

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6. The encapsulated document structure as claimed in claim 3, wherein said operating program is started by an external start program that is interpreted and executed by said computer.

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7. The encapsulated document structure as claimed in claim 6, wherein said operating program file is described by an intermediate language code, and runs by interpreting and executing the intermediate language code.

8. The encapsulated document structure as

claimed in claim 6, wherein said operating program is decrypted and started by said start program in accordance with said decryption key information.

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9. The encapsulated document structure as claimed in claim 6, wherein said operating program

10 started by said start program operates within predetermined operation rights.

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10. The encapsulated document structure as claimed in claim 3, wherein said decryption key information includes link information of URL.

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11. The encapsulated document structure as claimed in claim 3, wherein a storage area of said operating program is described therein.

12. The encapsulated document structure as claimed in claim 3, further comprising a start program file storing a start program that is interpreted and executed by said computer to start said encapsulated document file, wherein, when a file identifier of said encapsulated document file is changed, said operating program file is started by said start program.

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claimed in claim 12, further comprising signature determining means for determining whether the signature information in said encapsulated document is true or false, wherein, when said signature information is false, an unfair act process for performing a predetermined operation to avoid a problem caused by an unfair act performed with respect to the encapsulated document.

14. The encapsulated document structure as claimed in claim 12, wherein said start program displays the signature information of said operating program to be started or said encapsulated document so as to cause a user to check the start.

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claimed in claim 14, wherein said start program file includes signature retaining means for retaining

15 signature information, and said start program compare the signature information retained by said signature retaining means with the signature information in said encapsulated document so as to eliminate a signature display to the user when the signature information retained by said signature retaining means matches the signature information in said encapsulated document.

16. The encapsulated document structure as claimed in claim 3, further comprising: a start program file storing a start program that is interpreted and executed by said computer; and an installation program file storing an installation program that installs said start program in said computer when a file identifier of said encapsulated document file is changed.

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17. The encapsulated document structure as claimed in claim 16, further comprising signature determining means for determining whether the signature information in said encapsulated document is true or false, wherein, when said signature information is false, an unfair act process for performing a predetermined operation to avoid a problem caused by an unfair act performed with respect to the encapsulated document.

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18. The encapsulated document structure as
25 claimed in claim 16, wherein said start program displays

the signature information of said operating program to be started or said encapsulated document so as to cause a user to check the start.

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19. The encapsulated document structure as claimed in claim 18, wherein said start program file includes signature retaining means for retaining signature information, and said start program compare the signature information retained by said signature retaining means with the signature information in said encapsulated document so as to eliminate a signature display to the user when the signature information retained by said signature retaining means matches the signature information in said encapsulated document.

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20. The encapsulated document structure as claimed in claim 1, further comprising encapsulating means for encapsulating said document information file and said operating program file into a single file,

wherein said operating program is started by an external start program and is limited in operation rights thereof.

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21. The encapsulated document structure as claimed in claim 20, wherein said single file is signed and encrypted.

10

22. The encapsulated document structure as

claimed in claim 20, wherein said operating program is

limited in operation rights thereof based on signature
information regarding said operating program.

20

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23. The encapsulated document structure as claimed in claim 20, wherein an input and output of said operating program started by said start program is performed through an input and output library provided

in said operating program.

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24. The encapsulated document structure as claimed in claim 21, wherein said encapsulated document includes signature information, and said operating program starts said operating program in accordance with the signature information.

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25. The encapsulated document structure as claimed in claim 1, wherein said contents information file includes:

at least one contents file that serves as a substance of expression on a document; and

20

a document structure file specifying a structure of the contents file and a display status on said document.

26. The encapsulated document structure as claimed in claim 6, further comprising an icon file regarding an icon displayed on a display of said computer in accordance with substantive data of said document, wherein a selective designation of said icon is determined as an accessing operation to said document by said computer.

10

27. The encapsulated document structure as claimed in claim 25, further comprising a library file storing said contents file with an index indicating a storing location thereof, wherein said operating program file specifies said contents file according to said index.

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28. The encapsulated document structure as claimed in claim 25, further comprising a library file storing said contents file provided with a specific

header, wherein said operating program file specifies said contents file according to said header.

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29. The encapsulated document structure as claimed in claim 25, wherein said document contents file is described by a general-purpose data description language.

15 30. The encapsulated document structure as claimed in claim 29, wherein said data description language uses a tag to describe a structure of said contents file and an element specifying the display status on said document.

20

31. The encapsulated document structure as claimed in claim 30, wherein said operating program file

is provided in accordance with a file format specified by said contents file described using said tag.

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32. The encapsulated document structure as claimed in claim 25, wherein said operating program file is provided with a part as minimum unit necessary for processing said contents file.

- 15 33. The encapsulated document structure as claimed in claim 25, further comprising:
 - a file of a digital information display program for causing said contents file accessible on a display of said computer; and
- a file of a functional operation program for performing a specific function without referring to digital information of said contents file.

34. The encapsulated document structure as claimed in claim 33, wherein said digital information display program has a function to display a file specifying panel for displaying file specifying information that specifies said contents file in a selectable state, and a function to causing said contents file, which corresponds to a case where said file specifying information is selected, accessible on said display of said computer.

15 35. The encapsulated document structure as claimed in claim 33, wherein said functional operation program has a function to display a function panel for function specifying information that specifies a predetermined function in a selectable state, and a 20 function to perform said predetermined function that corresponds to a case where said function specifying information is selected.

25

36. The encapsulated document structure as claimed in claim 33, wherein said digital information display program has a scaling function to enlarge or reduce a displayed image based on said contents file.

37. The encapsulated document structure as claimed in claim 33, wherein said digital information display program has a view changing function to change a

viewpoint when a displayed image based on said contents

file is a three-dimensional image.

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20 claimed in claim 33, wherein said digital information display program has a function, when a displayed image based on said contents file is a dynamic image, to display a static image extracted from the dynamic in said document in a selectable state, and a function to reproduce the dynamic image when the static image is

ť:

selected.

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39. The encapsulated document structure as claimed in claim 33, wherein said digital information display program has a function to display, when said contents file includes audio information, a reproduction panel for causing the audio information designatable, and a function to reproduce the audio information when a reproduction of said audio information is designated through said reproduction panel.

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40. The encapsulated document structure as claimed in claim 39, wherein said digital information display program has a function to display, when a reproduction of said audio information is designated through said reproduction panel, text information corresponding to said audio information.

41. The encapsulated document structure as claimed in claim 1, further comprising a feature amount retaining file retaining an encrypted feature amount regarding said program file, the feature amount retaining file being encapsulated into said single file.

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42. The encapsulated document structure as claimed in claim 41, wherein said feature amount retaining file also retains an encrypted feature amount regarding said document information file.

20 43. The encapsulated document structure as claimed in claim 41, wherein said feature amount retaining file retains decryption key information used for decrypting the encrypted feature amount regarding said operating program file.

44. The encapsulated document structure as

5 claimed in claim 41, wherein said feature amount retaining file retains location information which indicates decryption key information used for decrypting the encrypted feature amount regarding said operating program file.

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45. The encapsulated document structure as

15 claimed in claim 43, wherein a different set of said

decryption key information is related to each operating

program file.

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46. The encapsulated document structure as claimed in claim 44, wherein a different set of said decryption key information is related to each operating program file.

5 47. The encapsulated document structure as claimed in claim 41, wherein the feature amount regarding said operating program file is encrypted by a public key encryption method.

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48. The encapsulated document structure as claimed in claim 43, wherein said decryption key

information is signed and encrypted by a third party authentication authority.

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49. The encapsulated document structure as claimed in claim 41, wherein the feature amount regarding said operating program file is encrypted by a private key encryption method.

50. The encapsulated document structure as

5 claimed in claim 41, further comprising a feature amount verification program for performing a verification of a tamper on said operating program file, the feature amount verification program being encapsulated into said single file.

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51. The encapsulated document structure as

15 claimed in claim 1, wherein a feature amount of the operating program in said operating program file is stored outside said single document.

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52. The encapsulated document structure as claimed in claim 51, wherein the feature amount regarding said operating program file is encrypted by a public key encryption method.

5 53. The encapsulated document structure as claimed in claim 51 wherein the feature amount regarding said operating program file is encrypted by a private key encryption system.

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54. The encapsulated document structure as claimed in claim 51, further comprising a feature amount verification program for performing a verification of a tamper on said operating program file, the feature amount verification program being encapsulated into said single file.

- 55. An encapsulated document structure comprising:
- a document information file storing contents

information that is a substance of expression on a
document;

encrypted feature amount regarding said operating program file,

wherein said document information file, said location information and said feature amount retaining file are encapsulated into a single file.

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56. The encapsulated document structure as claimed in claim 55, wherein said feature amount retaining file also retains an encrypted feature amount regarding said document information file.

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57. The encapsulated document structure as

claimed in claim 55, wherein said feature amount retaining file retains decryption key information used for decrypting the encrypted feature amount regarding said operating program file.

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58. The encapsulated document structure as

claimed in claim 55, wherein said feature amount

retaining file retains location information which

indicates decryption key information used for decrypting

the encrypted feature amount regarding said operating

program file.

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59. The encapsulated document structure as

20 claimed in claim 57, wherein a different set of said
decryption key information is related to each operating
program file.

60. The encapsulated document structure as claimed in claim 58, wherein a different set of said decryption key information is related to each operating program file.

10 61. The encapsulated document structure as claimed in claim 55, wherein the feature amount regarding said operating program file is encrypted by a public key encryption method.

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62. The encapsulated document structure as claimed in claim 57, wherein said decryption key
20 information is signed and encrypted by a third party authentication authority.

63. The encapsulated document structure as claimed in claim 55, wherein the feature amount regarding said operating program file is encrypted by a private key encryption system.

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64. The encapsulated document structure as

10 claimed in claim 55, further comprising a feature amount verification program for performing a verification of a tamper on said operating program file, the feature amount verification program being encapsulated into said single file.

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65. An encapsulated document structure 20 comprising:

document information file storing contents information that is a substance of expression on a document; and

location information indicating a location

25 where an operating program file containing an operating

program for materializing the document information file is stored,

wherein the document information file and the location information are encapsulated into a single file, and a feature amount regarding the operating program file is stored outside said single file.

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66. The encapsulated document structure as claimed in claim 65, wherein the feature amount regarding said operating program file is encrypted by a public key encryption method.

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67. The encapsulated document structure as
20 claimed in claim 66, wherein decryption key information
used for decrypting the encrypted said operating program
file is signed and encrypted by a third party
authentication authority.

68. The encapsulated document structure as claimed in claim 65, wherein the feature amount regarding said operating program file is encrypted by a private key encryption system.

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69. The encapsulated document structure as claimed in claim 65, further comprising a feature amount verification program for performing a verification of a tamper on said operating program file, the feature

15 amount verification program being encapsulated into said single file.

- 70. A document file producing apparatus producing an electronic document file having an encapsulated document structure, said encapsulated document structure comprising:
- 25 a document information file storing document

information that is a substance of expression of a document; and

an operating program file storing an operating program that materializes the document information, a limitation being given to the operating program by a security function when the operating program is interpreted and executed by a computer,

wherein the document information file and the operating program file are encapsulated as a single document.

71. The document file producing apparatus as claimed in claim 70, wherein said operating program file is produced and distributed by an operating program provider beforehand.

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72. The document file producing apparatus as claimed in claim 70, wherein the security function of said operating program file is controlled based on

specific decryption key information for decrypting encrypted digital information.

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73. The document file producing apparatus as claimed in claim 72, wherein said specific decryption key information is produced and distributed by an operating program provider beforehand.

74. An encapsulated document producing and editing apparatus comprising:

decryption key information provided
beforehand;

an operating program file that is decrypted 20 from the decryption key information; and

encapsulated document producing and editing means having user interface means for producing and editing a document information file in accordance with a user operation and encapsulating means for encapsulating the produced document information file, said decryption

key information and said operating program file into a single file.

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75. An encapsulated document producing and editing apparatus comprising:

an operating program file provided beforehand;

encapsulated document producing and editing

means having user interface means for producing and

editing a document information file in accordance with a

user operation and encapsulating means for encapsulating

the produced document information file and said

operating program file into a single file; and

decryption means for decrypting the

encapsulated single file.

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76. An encapsulated document producing and editing apparatus comprising:

encapsulated document producing and editing
25 means having user interface means for producing and

editing a document information file in accordance with a user operation;

an operating program file provided beforehand;
and

decryption means for decrypting the produced document information file and said operating program file,

wherein said encapsulated document producing and editing means has encapsulating means for encapsulating the encrypted document information file and said operating program file into a single file.

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77. A start program for starting an operating program file provided in an encapsulated document comprising: decryption key information for decrypting encrypted digital information; the operating program

20 file that is decrypted in accordance with the decryption key information; document information file that is materialized on a computer by the decrypted operating program; and encapsulating means for encapsulating said decryption key information, said operating program file

25 and said document information file into a single file,

said start program comprising:

reading means for reading the encrypted decryption key information and said operating program file from said encapsulated document file;

decryption means for decrypting said

decryption key information using a public key provided

by a third party authentication authority, and

decrypting said operating program using the decrypted

decryption key information; and

operating program starting means for starting said decrypted operating program.

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78. The start program as claimed in claim 77, further comprising public key information provided by said third party authentication authority.

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79. The start program as claimed in claim 77, further comprising signature determining means for determining whether signature information in said

encapsulated document is true or false so as to perform a process for preventing a problem caused by an unfair act that has been applied on said encapsulated document file.

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80. The start program as claimed in claim 77,

10 further comprising means for displaying the signature information of said operating program or said encapsulated document to be started on a display of a computer so as to request a user to check a start of said operating program.

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further comprising signature information retaining means for retaining signature information so as to compare the signature information retained by said signature information retaining means with signature information provided in said encapsulated document so that a display of signature is omitted when the signature information

retained by said signature information retaining means matches the signature information provided in said encapsulated document.

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- 82. An encapsulated document producing apparatus comprising:
- document information file acquisition means for acquiring a document information file storing contents information that is a substance of expression regarding a document;
- operating program file acquisition means for

 acquiring an operation program file storing an operating
 program, which is interpreted and executed by a computer,
 for materializing said document information file
 acquired by said document information file acquisition
 means;
- feature amount computing means for computing a feature amount of said operating program file;

feature amount retaining file producing means for encrypting the feature amount of said operating program file computed by said feature amount computing means, and saving the encrypted feature amount in a

feature amount retaining file; and

encapsulating means for encapsulating said document information file, said operating program file and said feature amount retaining file into a single document.

apparatus as claimed in claim 82, further comprising document information feature amount computing means for computing a feature amount of said document information file so as to encrypt the computed feature amount of said document information file so document information file with encryption key information and save the encrypted feature amount in said feature amount retaining file.

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84. A program tamper verification method performed by an information processing unit for verifying a tamper on an operating program file that materializes a document information file that is a

substance of expression regarding a document, the operating program file and the document information file are encapsulated into an encapsulated document file, the program tamper verification method comprising the steps of:

computing a feature amount of said operating program file in said encapsulated document file when materializing said document information file;

decrypting an encrypted feature amount of said operating program file that was been retained;

comparing the decrypted feature amount of said operating program file with the computed feature amount of said operating program file;

limiting materialization of said document

information file performed by said operating program

file when the decrypted feature amount of said operating

program file does not match the computed feature amount

of said operating program file.

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85. A program tamper verification method performed by an information processing unit forverifying a tamper on an operating program file that

materializes a document information file that is a substance of expression regarding a document, the operating program file and the document information file are encapsulated into an encapsulated document file, the program tamper verification method comprising the steps of:

computing a feature amount of said operating program file stored at a location indicated by location information retained in said encapsulated document file when materializing said document information file;

decrypting a decrypted feature amount of said operating program previously retained;

comparing the decrypted feature amount of said operating program file with the computed feature amount of said operating program file;

limiting materialization of said document information file performed by said operating program file when the decrypted feature amount of said operating program file does not match the computed feature amount of said operating program file.

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comprising:

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reading means for reading an encapsulated document file having an encapsulated document structure; and

tamper verification means for performing verification of a tamper on an operating program stored in said encapsulated document file based on a feature amount of said operating program file that materializes a document information file stored in said encapsulated document file and read by said reading means,

wherein said encapsulated document structure comprises the document information file, the operating program file and a feature amount retaining file that retains an encrypted feature amount of said operating program.

20 87. The tamper verification apparatus as claimed in claim 86, wherein said tamper verification means includes:

decryption means for decrypting the encrypted feature amount of said operating program file retained by said feature amount retaining file stored in said

encapsulated document file and read by said reading
means;

feature amount computation means for computing a feature amount of said operation program file stored in said encapsulated document file; and

performing the verification of a tamper on said operating program file based on the computed feature amount of said operating program file computed by said feature amount computation means and the decrypted feature amount of said operating program file decrypted by said decryption means.

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- 88. The tamper verification apparatus as claimed in claim 86, wherein said tamper verification means includes:
- feature amount computation means for computing a feature amount of said operating program file stored in said encapsulated document file read by said reading means; and

tamper verification execution means for 25 performing the verification of a tamper on said operating program file based on the computed feature amount of said operating program file computed by said feature amount computation means and a feature amount of said operating program file stored in a start program.

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89. The tamper verification apparatus as

10 claimed in claim 86, wherein said tamper verification

means includes:

feature amount computation means for computing a feature amount of said operating program file stored in said encapsulated document file read by said reading means;

encryption means for encrypting the computed feature amount of said operating program file computed by said feature amount computation means; and

performing the verification of a tamper on said operating program file based on the encrypted feature amount of said operating program file encrypted by said encryption means and a decrypted feature amount of said operating program file retained in a feature amount

25 retaining file stored in said encapsulated document file.

5 90. The tamper verification apparatus as claimed in claim 86, wherein said tamper verification means includes:

feature amount computation means for computing a feature amount of a feature amount verification program file stored in said encapsulated document file and read by said reading means;

determining means for determining whether or not to execute said feature amount verification program file based on the computed feature amount of said

- feature amount verification program file computed by said feature amount computation means and a feature amount of said feature amount verification program file stored in a start program; and
- tamper verification execution means for

 20 performing verification of a tamper on said operating
 program file when said feature amount verification
 program file is determined by said determining means to
 be executed.

91. Am encapsulated document producing process program causing a computer to perform the functions of:

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acquiring a document information file installed in said computer, the document information file containing contents information that is a substance of expression regarding a document;

- acquiring an operating program file that is interpreted and executed by said computer so as to materialize said document information file acquired by said function of acquiring the document information file;
- computing a feature amount of said operating program file;

encrypting the feature amount of said operating program file computed by said function of computing the feature amount by using decryption key information;

saving the decrypted feature amount of said operating program file in a feature amount retaining file; and

encapsulating said document information file,
25 said operating program file and said feature amount

retaining file into a single document file.

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92. The encapsulated document producing process program as claimed in claim 91, further comprising the functions of:

causing said computer to perform a function of computing the feature amount of said document information file;

decrypting the computed feature amount of said document information file by using decryption key information; and

saving the decrypted feature amount of said document information file in said feature amount retaining file.

- 93. A processor readable storage medium storing an encapsulated document producing process program causing a computer to perform the functions of:
- 25 acquiring a document information file

installed in said computer, the document information file containing contents information that is a substance of expression regarding a document;

acquiring an operating program file that is interpreted and executed by said computer so as to materialize said document information file acquired by said function of acquiring the document information file;

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computing a feature amount of said operating 10 program file;

encrypting the feature amount of said operating program file computed by said function of computing the feature amount by using decryption key information:

saving the decrypted feature amount of said operating program file in a feature amount retaining file; and

encapsulating said document information file, said operating program file and said feature amount retaining file into a single document file.

25 94. The processor readable storage medium as

claimed in claim 93, wherein said encapsulated document producing process program further comprising the functions of:

causing said computer to perform a function of computing the feature amount of said document information file:

decrypting the computed feature amount of said document information file by using decryption key information; and

saving the decrypted feature amount of said document information file in said feature amount retaining file.

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95. A start program causing a computer to perform the functions of:

reading an encapsulated document file having
20 an encapsulated document structure; and

performing verification of a tamper on an operating program stored in said encapsulated document file based on a feature amount of said operating program file that materializes a document information file stored in said encapsulated document file and read by

said reading means,

wherein said encapsulated document structure comprises the document information file, the operating program file and a feature amount retaining file that retains an encrypted feature amount of said operating program.

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96. The start program as claimed in claim 95, wherein said function of performing the verification includes the function of:

decrypting the encrypted feature amount of said operating program file retained by said feature amount retaining file stored in said encapsulated document file and read by said function of reading;

computing a feature amount of said operation program file stored in said encapsulated document file;

20 and

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performing the verification of a tamper on said operating program file based on the computed feature amount of said operating program file computed by said feature amount computation means and the decrypted feature amount of said operating program file

decrypted by said decryption means.

5

97. The start program as claimed in claim 95, wherein said function of performing verification includes the function of:

computing a feature amount of said operating

10 program file stored in said encapsulated document file
read by said function of reading; and

performing the verification of a tamper on said operating program file based on the computed feature amount of said operating program file computed by said function of computing the feature amount and a feature amount of said operating program file stored in said start program.

20

98. The start program as claimed in claim 95, wherein said function of performing verification includes the function of:

25 computing a feature amount of said operating

program file stored in said encapsulated document file read by said function of reading;

encrypting the computed feature amount of said operating program file computed by said function of computing the feature amount; and

performing the verification of a tamper on said operating program file based on the encrypted feature amount of said operating program file encrypted by said function of encrypting and a decrypted feature amount of said operating program file retained in a feature amount retaining file stored in said encapsulated document file.

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99. The start program as claimed in claim 95, wherein said function of performing verification includes the function of:

computing a feature amount of a feature amount verification program file stored in said encapsulated document file and read by said function of reading;

determining whether or not to execute said feature amount verification program file based on the computed feature amount of said feature amount

verification program file computed by said function of computing the feature amount and a feature amount of said feature amount verification program file stored in said start program; and

performing verification of a tamper on said operating program file when said feature amount verification program file is determined by said determining means to be executed.

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100. A processor readable storage medium storing a start program causing a computer to perform the functions of:

reading an encapsulated document file having an encapsulated document structure; and

performing verification of a tamper on an operating program stored in said encapsulated document file based on a feature amount of said operating program file that materializes a document information file stored in said encapsulated document file and read by said reading means,

wherein said encapsulated document structure comprises the document information file, the operating

program file and a feature amount retaining file that retains an encrypted feature amount of said operating program.

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101. The processor readable storage medium as claimed in claim 100, wherein said function of performing the verification includes the function of:

decrypting the encrypted feature amount of said operating program file retained by said feature amount retaining file stored in said encapsulated document file and read by said function of reading;

computing a feature amount of said operation program file stored in said encapsulated document file; and

performing the verification of a tamper on said operating program file based on the computed

20 feature amount of said operating program file computed by said feature amount computation means and the decrypted feature amount of said operating program file decrypted by said decryption means.

e	:	102.	The p	processor	reada	able	stora	age	medium	as
claimed	in	claim	100	, wherein	said	func	tion	of		,

5 performing the verification includes the function of:

computing a feature amount of said operating program file stored in said encapsulated document file read by said function of reading; and

performing the verification of a tamper on

10 said operating program file based on the computed

feature amount of said operating program file computed

by said function of computing the feature amount and a

feature amount of said operating program file stored in

said start program.

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103. The processor readable storage medium as claimed in claim 100, wherein said function of performing the verification includes the function of:

computing a feature amount of said operating program file stored in said encapsulated document file read by said function of reading;

encrypting the computed feature amount of said

operating program file computed by said function of computing the feature amount; and

performing the verification of a tamper on said operating program file based on the encrypted feature amount of said operating program file encrypted by said function of encrypting and a decrypted feature amount of said operating program file retained in a feature amount retaining file stored in said encapsulated document file.

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104. The processor readable storage medium as claimed in claim 100, wherein said function of performing the verification includes the function of:

computing a feature amount of a feature amount verification program file stored in said encapsulated document file and read by said function of reading;

determining whether or not to execute said

feature amount verification program file based on the

computed feature amount of said feature amount

verification program file computed by said function of

computing the feature amount and a feature amount of

said feature amount verification program file stored in

said start program; and

performing verification of a tamper on said operating program file when said feature amount verification program file is determined by said determining means to be executed.

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105. An electronic document file comprising:

a plurality of operating programs and operating program use information provided by an operating program provider; and

a contents file and contents use information

15 produced by said operating program provider or a

document producer.

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106. The electronic document file as claimed in claim 105, wherein at least one of said operating programs is an operation verification program that operates other operating programs based on said operating program use information.

in claim 105, wherein at least one of said operating programs is a contents verification program that limits a use of said contents file based on said contents file use information.

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in claim 105, wherein at least one of said operating programs is an operation verification program that operates other operating programs based on said operating program use information, and at least one of said operating programs is a contents verification

20 program that limits a use of said contents file based on said contents file use information.

109. The electronic document file as claimed in claim 106, wherein said operation verification program verifies a tamper on said operating programs and said operating program use information.

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110. The electronic document file as claimed in claim 106, wherein said operation verification program limits an operation of said operating programs.

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111. The electronic document file as claimed in claim 107, wherein said contents verification program verifies a tamper on said contents file and said contents file use information.

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112. The electronic document file as claimed
25 in claim 107, wherein said contents verification program

limits a use of said contents use file.

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in claim 106, wherein, when safety of said operating programs is not guaranteed by said operation verification program, a user of said electronic document file is notified of the fact that safety of said operating programs is not guaranteed.

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114. The electronic document file as claimed in claim 105, wherein said operating programs, said operating program use information, said contents file and said contents file use information are encapsulated into a single file.

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115. An electronic document file producing

apparatus comprising:

reading means for reading a plurality of operating programs and operating program use information;

contents file producing means for producing a contents file and contents file use information; and information producing means for producing information to be stored in an electronic document file, wherein said electronic document file

10 comprises:

a plurality of operating programs and operating program use information provided by an operating program provider; and

a contents file and contents use information

15 produced by said operating program provider or a

document producer.

20

116. The electronic document file producing apparatus as claimed in claim 115, wherein said contents file producing means causes one of said operating programs of said electronic document file to be executed.

117. The electronic document file producing

5 apparatus as claimed in claim 115, further comprises operating program adding means for adding said plurality of operating programs and said operating program use information provided by the operating program provider to said electronic document file based on said contents

10 file and said contents file use information produced by said contents file producing means.

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apparatus as claimed in claim 116, further comprises operating program adding means for adding said plurality of operating programs and said operating program use information provided by the operating program provider to said electronic document file based on said contents file and said contents file use information produced by said contents file producing means.

119. An encapsulated document structure comprising:

an operating program read by a provided-side computer connected to a network so as to cause the provided-side computer to perform various functions;

use information regarding an encapsulated document provided to said provided-side computer through said network; and

sending location information for sending said use information to a providing-side computer connected to said network,

wherein said operating program, said use

information and said sending location information are
encapsulated into a single document, and said operating
program includes use information transmitting program
for transmitting said use information according to said
sending location information at a predetermined timing.

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120. The encapsulated document structure as claimed in claim 119, wherein and said operating program 25 includes:

a contents information display program for displaying contents information that is a substance of expression on a document;

a permission information reception program for receiving permission information regarding permission of display of said contents information form said provided-side computer through said network; and

a contents information display program for displaying said contents information in accordance with said permission information.

15 121. The encapsulated document structure as claimed in claim 120, wherein said permission information is encrypted feature amount information of said contents information; said operating program further includes a feature amount determination program 20 for determining whether or not the encrypted feature amount information is equal to predetermined feature amount; and said contents information display program displays said contents information in accordance with a result of determination of said feature amount

25 determination program.

5 122. The encapsulated document structure as claimed in claim 121, wherein said feature amount determination program determines whether or not the encrypted feature amount information of said contents information is equal to computed feature amount 10 information computed from said contents information existing in said encapsulated document, and said contents information display program displays said contents information when the encrypted feature amount information of said contents information is determined by said feature amount determination program equal to 15 the computed feature amount information computed from said contents information existing in said encapsulated document.

- 123. An encapsulated document structure comprising:
- a storage area where contents information,

which is a substance of expression on a document, is stored;

an operating program read by a provided-side computer connected to a network so as to cause the provided-side computer to perform various functions; and use information regarding an encapsulated document provided to said provided-side computer through said network,

wherein said storage area, said operating

program and said use information are encapsulated into a single document, and said operating program includes an encrypted contents information display program for displaying said contents information stored in said storage area.

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124. An encapsulated document processing 20 apparatus, comprising:

request information receiving means for receiving request information from a provided-side computer through a network;

encapsulated document producing means for producing an encapsulated document having a

predetermined encapsulated document structure in accordance with the request information received by said request information receiving means; and

encapsulated document transmitting means for sending the encapsulated document produced by said encapsulated document producing means to said provided-side computer through said network,

wherein said predetermined encapsulated document structure comprises:

an operating program read by said providedside computer connected to a network so as to cause said provided-side computer to perform various functions;

use information regarding an encapsulated document provided to said provided-side computer through said network; and

sending location information for sending said use information to a providing-side computer connected to said network,

wherein said operating program, said use
information and said sending location information are
encapsulated into a single document, and said operating
program includes use information transmitting program
for transmitting said use information according to said
sending location information at a predetermined timing.

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125. The encapsulated document processing
5 apparatus as claimed in claim 124, further comprising:

charge information producing means for producing charge information of use fee of said encapsulated document by computing the use fee in accordance with said request information received by said request information receiving means;

charge information transmitting means for transmitting the charge information of the use fee produced by said charge information producing means to said provided-side computer through said network; and

payment information receiving means for receiving payment information on the use fee from said provided-side computer through said network,

wherein said encapsulated document transmitting means sends said encapsulated document produced by said encapsulated document producing means to said provided-side computer through network when the payment information on the use fee is received by said payment information receiving means.

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126. The encapsulated document processing apparatus as claimed in claim 124, wherein said encapsulated document producing means includes:

operating program producing means for producing an operating program in accordance with said request information received by said request information receiving means, the operating program being read by said provided-side computer and causing provided-side computer to perform various functions;

use information setting means for setting use information regarding said encapsulated document provided to said provided-side computer through said network; and

encapsulating means for encapsulating said operating program produced by said operating program producing means and said use information set by said use information setting means into a single document.

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127. The encapsulated document processing 25 apparatus as claimed in claim 124, wherein said

encapsulated document producing means includes:

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operating program producing means for producing an operating program in accordance with said request information received by said request information receiving means, the operating program being read by said provided-side computer and causing provided-side computer to perform various functions;

encryption key producing means for producing an encryption key owned by the providing-side;

operating program encryption means fro encrypting said operating program with the encryption key produced by said encryption key producing means;

use information setting means for setting use information regarding said encapsulated document

provided to said provided-side computer through said
network; and

encapsulating means for encapsulating said operating program encrypted by said operating program encrypting means and said use information set by said use information setting means into a single file.

25 128. An encapsulated document processing

apparatus, comprising:

use information receiving means for receiving use information from a provided-side computer through a network;

- charge information producing means for producing charge information of use fee of said encapsulated document by computing the use fee in accordance with said request information received by said use information receiving means;
- charge information transmitting means for transmitting the charge information of the use fee produced by said charge information producing means to said provided-side computer through said network;

payment information receiving means for

15 receiving payment information on the use fee from said

provided-side computer through said network; and

permission information transmitting means for transmitting permission information to said provided—side computer through said network when the charge information on the use fee is received by said payment information receiving means, the permission information for permitting and execution of a saving process of contents information that is a substance of expression on a document.

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129. An encapsulated document structure,
5 comprising:

contents information that is a substance of expression on a document;

an operating program read by an accessing-side computer connected to a network, the operating program causing the accessing-side computer to perform various functions; and

sending location information for sending various kinds of information to a providing-side computer connected to said through said network,

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wherein said contents information, said operating program and said sending location information are encapsulated into a single document, and

wherein said operating program includes:

an operation processing program of which operation process on said contents information is limited based on authority information; and

a limitation cancellation program for canceling a limitation in the operation process of said operation processing program by sending various kinds of information based on said sending location information.

130. The encapsulated document structure as claimed in claim 129, wherein said contents information is encrypted, and said limitation cancellation program acquires decryption key information for decrypting the encrypted contents document based on said sending location information through said network so as to decrypt the encrypted contents information based on the decryption key information acquired.

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claimed in claim 130, wherein decryption key producing information request information is encapsulated into said single document together with said contents information, said operating program and said sending location information, the decryption key producing information request information for requesting said providing-side computer to send decryption key producing information necessary for producing said decryption key

information, and

said limitation cancellation program includes:

a decryption key producing information requesting program for requesting said decryption key producing information by sending said decryption key producing information request information to said providing-side computer through said network based on said sending location information;

decryption key producing information reception

10 program for receiving said decryption key producing information from said providing-side computer through said network;

a decryption key producing program for producing said decryption key information based on said decryption key producing information received by said decryption key producing information reception program; and

a decryption program for decrypting the encrypted contents information based on said decryption key information produced by said decryption key producing program.

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132. An encapsulated document processing apparatus, comprising:

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storage area acquisition means for acquiring a storage area where contents information, which is a substance of expression on a document, is saved;

request information receiving means for receiving request information through from a provided-side computer through a network;

operating program producing means for

10 producing and operating program in accordance with said request information received by said request information receiving means, the operating program being read by said an accessing-side computer and causing said accessing-side computer to perform various kinds of functions:

sending location information setting means for setting sending location information for sending various kinds of information to a providing-side computer through said network;

encapsulation means for encapsulating said storage area, said operating program produced by said operating program producing program and said sending location information set by said sending location information setting means into a single document; and encapsulated document transmitting means for

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transmitting the encapsulated document produced by said encapsulating means to said provided-side computer through said network,

wherein said operating program producing means includes:

an operation processing program of which operation process on said contents information is limited based on authority information; and

a limitation cancellation program for canceling the limitation in the operation process of said operating program by sending various kinds of information based on said sending location information.

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apparatus as claimed in claim 132, further comprising contents information encryption means for encrypting said contents information, which is stored in said storage area acquired by said storage area acquisition means, according to encryption key information as said authority information, wherein said encapsulated document transmitting means transmits said encapsulated document, which has said contents information encrypted

by said contents information encryption means and stored in said storage area, to said provided-side computer or said accessing-side computer through said network.

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- 134. The encapsulated document processing apparatus as claimed in claim 133, wherein said

 10 limitation cancellation program includes:
 - a decryption key producing information request program for requesting decryption key producing information necessary for producing decryption key information for decrypting said contents information, a request being sent to said providing-side computer through said network based on said sending location information;
 - a decryption key producing information reception program for receiving said decryption key producing information from said providing-side computer through said network;
 - a decryption key producing program for producing said decryption key information based on said decryption key producing information received by said decryption key producing information reception program;

and

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decryption program for decrypting said encrypted contents information based on said decryption key information produced by said decryption key producing program.

10 135. An encapsulated document processing apparatus, comprising:

decryption key request information receiving means for receiving decryption key request information from an accessing-side computer through a network, the decryption key request for requesting decryption key information for decrypting encrypted contents information, which is a substance of expression on a document;

decryption key producing means for producing

20 said decryption key information based on said decryption key request information received by said decryption key request information receiving means; and

decryption key information transmitting means for transmitting said decryption key information, which is produced by said decryption key producing means, to

said accessing-side computer through said network.

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apparatus as claimed in claim 135, further comprising fee-charging means for charging a use fee of said contents information to said accessing-side computer when said decryption key information is transmitted by said decryption key information transmitting means.

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137. An encapsulated document processing apparatus, comprising;

decryption key production request information receiving means for receiving decryption key production information request information from a providing-side computer through a network, the decryption key production information request information for requesting decryption key producing information necessary for producing decryption key information for decrypting encrypted contents information, which is a

substance of expression regarding a document;

decryption key producing information producing means for producing said decryption key producing information based on said decryption key producing information request information received by said decryption key production request information receiving means;

decryption key producing information transmitting means for transmitting said decryption key producing information, which is produced by said decryption key producing information producing on means, to an accessing-side computer through said network; and

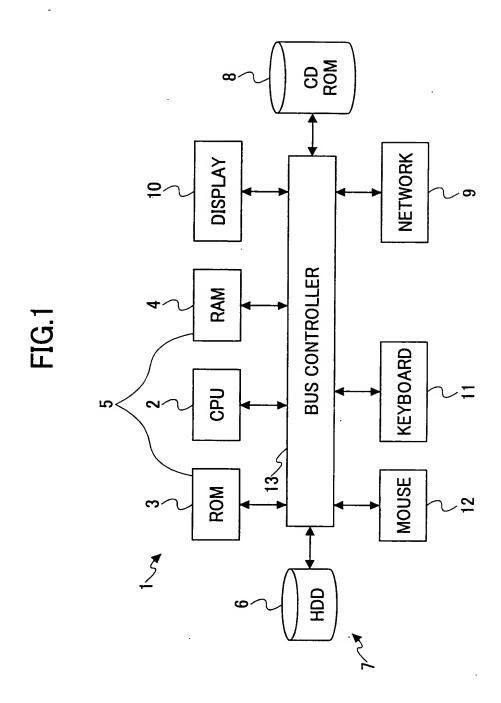
fee-charging means for charging a use fee of said contents information to said accessing-side

15 computer when said decryption key producing information is transmitted by said decryption key producing information transmitting means.

10

ABSTRACT OF THE DISCLOSURE

An electronic document producing, distributing and accessing system prevents a malicious program from being mixed into an electronic document without being influenced by an operating environment of a computer by 5 providing a document producing application and a document accessing application by the same application provider. In the electronic document having an encapsulated document structure, a document information file stores document information that is a substance of 10 expression of a document. An operating program file stores an operating program that materializes the document information, a limitation being given to the operating program by a security function when the 15 operating program is interpreted and executed by a computer. The document information file and the operating program file are encapsulated as a single document.



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FIG.2 PRIOR ART

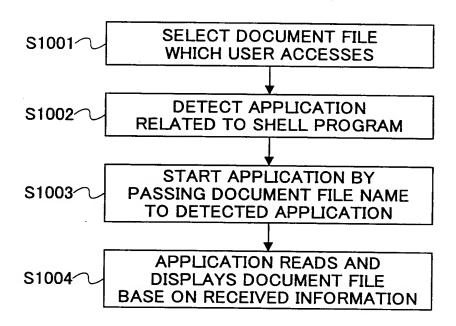


FIG.3

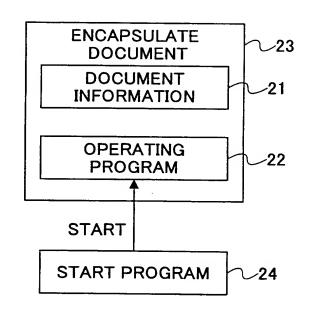


FIG.4

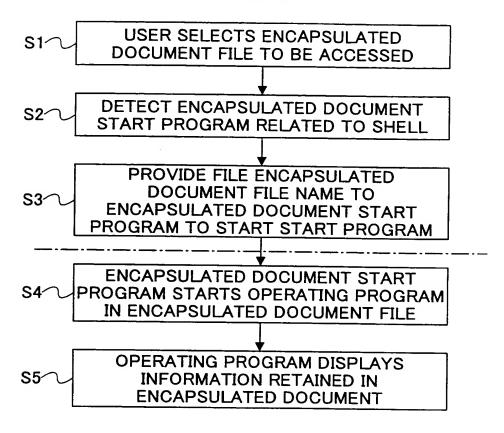


FIG.5

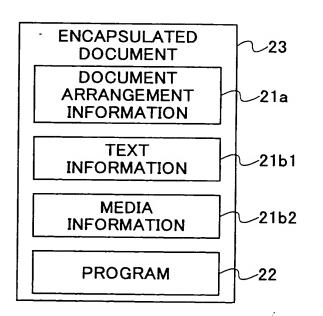


FIG.6

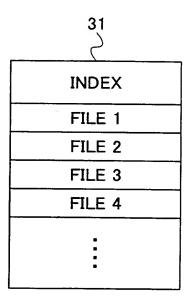


FIG.7

31
HEADER
· FILE 1
HEADER
FILE 2
HEADER
FILE 4

FIG.8

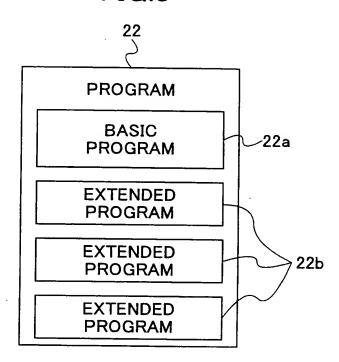


FIG.9

41	43		22b	22	<u>42</u>			
	OPERATION	EXTE	NDED P	ROGRAM	CORRESPONDING TAG			
	TEXT DISPLAY	- 	ΓEXT PA	NEL /	TEXT			
	STATIC IMAGE DISPLAY	IMAGE PANEL MOVIE PANEL			IMAGE			
	DYNAMIC IMAGE DISPLAY				MOVIE			
	3D DISPLAY	3D PANEL		EL /	3D			
22b2 22b3 22b4								

FIG.10

FIG.11

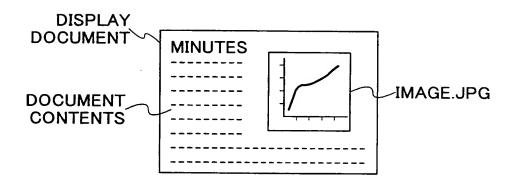


FIG.12

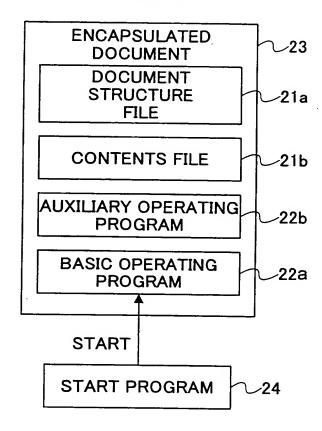
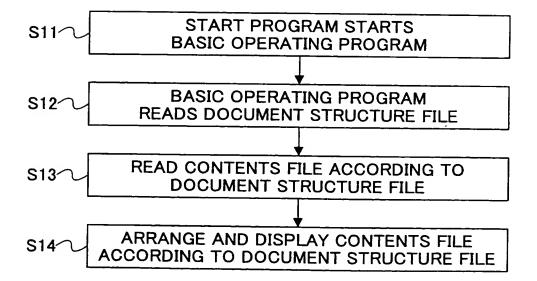


FIG.13



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FIG.14

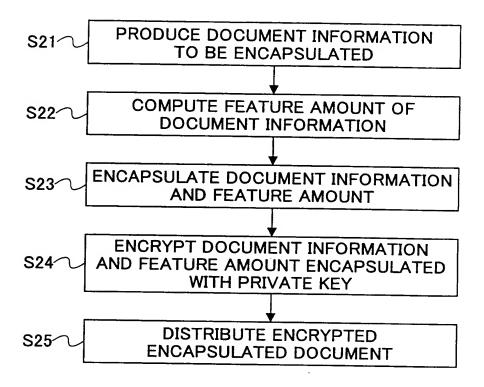


FIG.15

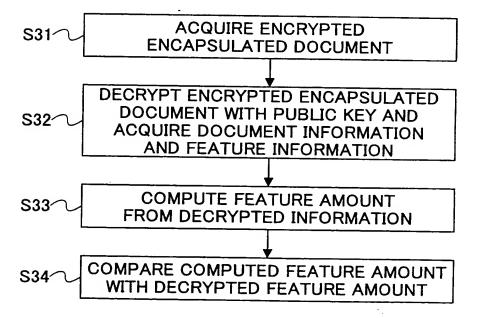


FIG.16

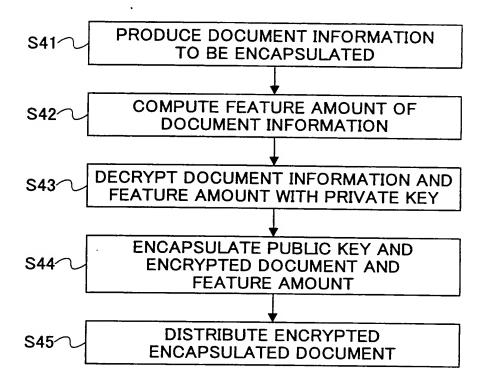


FIG.17

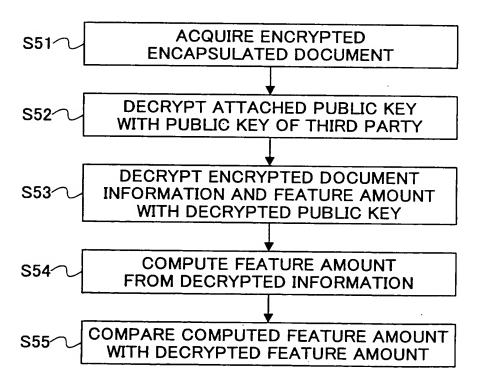


FIG.18

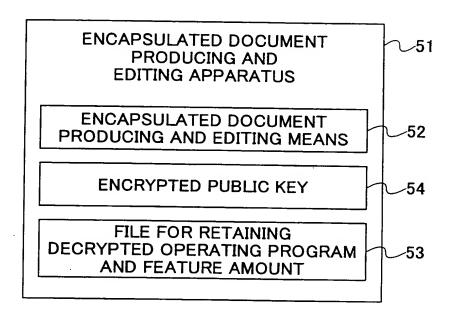


FIG.19

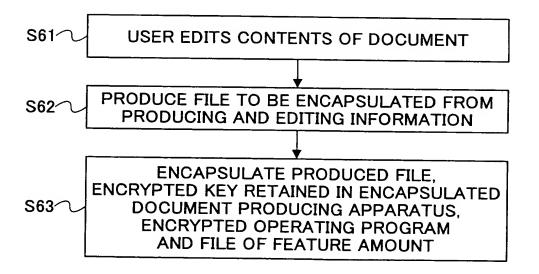


FIG.20

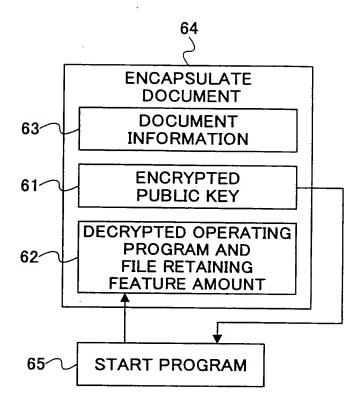
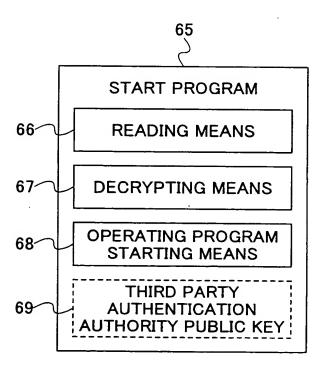


FIG.21



v.

FIG.22

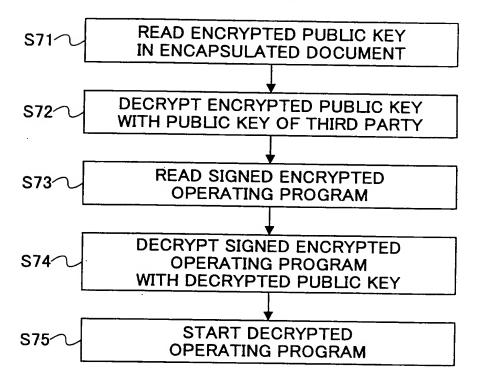


FIG.23

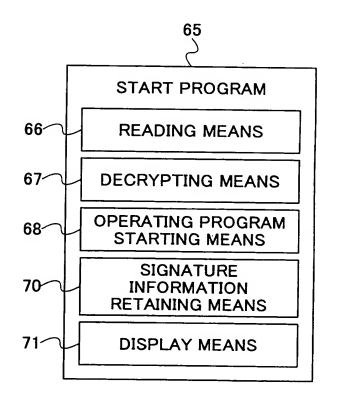
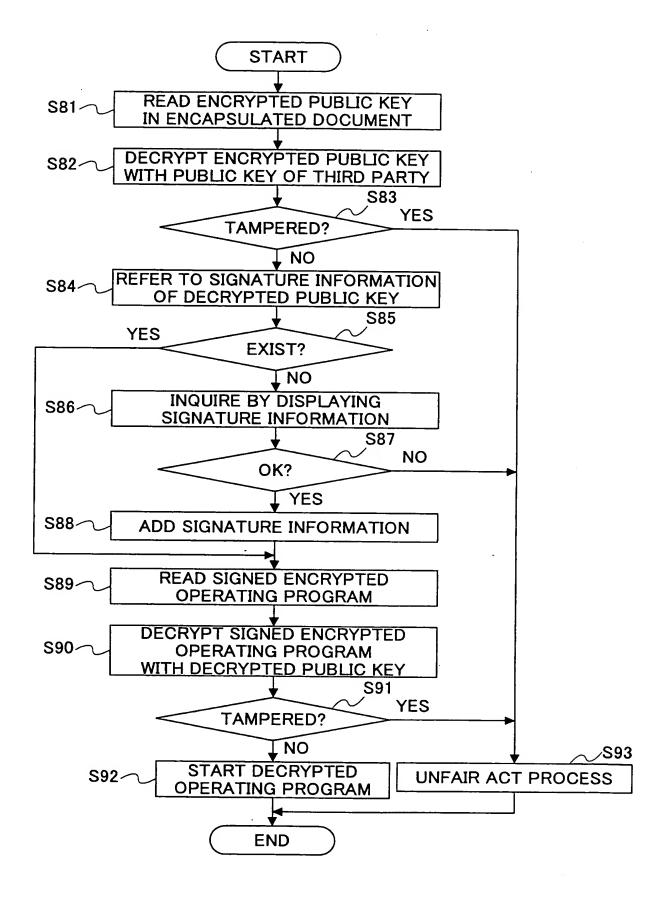


FIG.24



v.;

FIG.25

KINDS OF OPERATION RIGHTS		MODES OF OPERATION RIGHTS			
READ FILE IN ENCAPSULATED DOCUMENT	×	0	0	0	
READ FILE IN COMPUTER	×	×	0	0	
READ AND WRITE FILE IN ENCAPSULATED DOCUMENT		×	×	0	
READ AND WRITE FILE IN COMPUTER		×	×	×	
RECEIVE PACKET OF NETWORK		×	×	×	
TRANSMIT PACKET OF NETWORK	×	×	×	×	

FIG.26

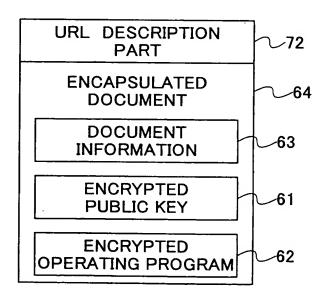


FIG.27

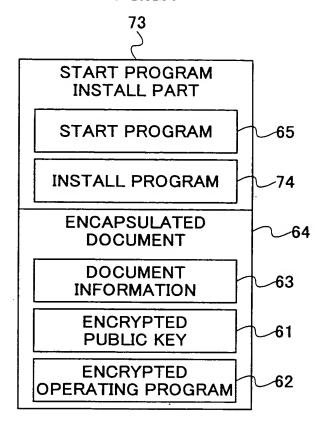
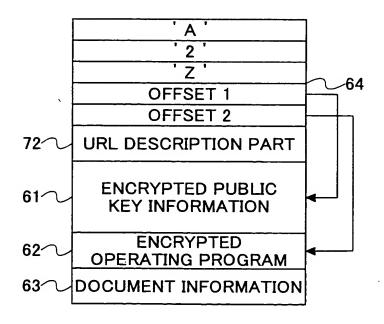


FIG.28



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FIG.29

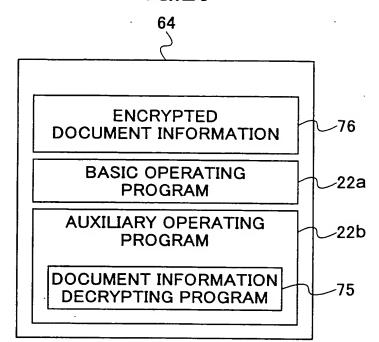


FIG.30

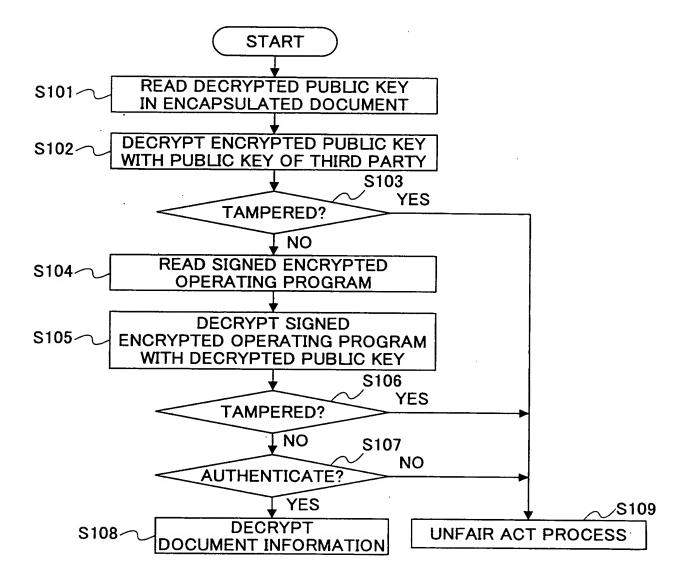


FIG.31

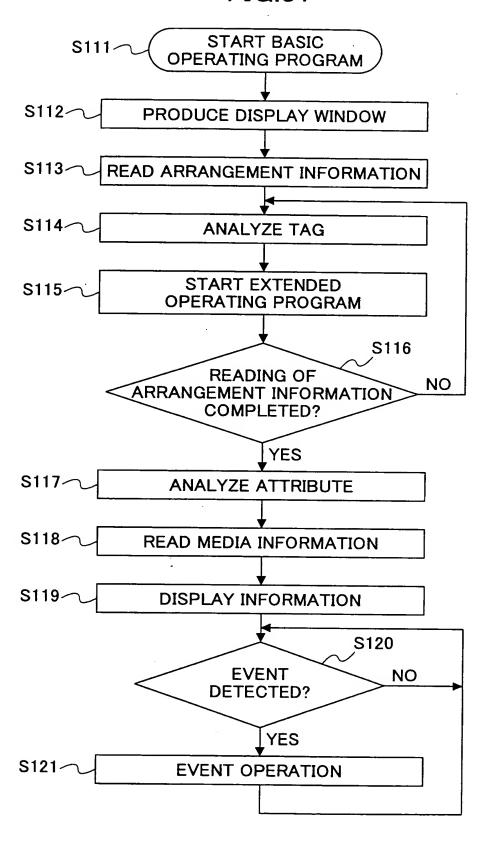


FIG.32

KINDS OF MEDIA	EXTENDED OPERATING PROGRAM				
MOTION JPEG	MJ PANEL				
MPEG 2	MP PANEL				
WINDOWSAV1	AV PANEL				

FIG.33

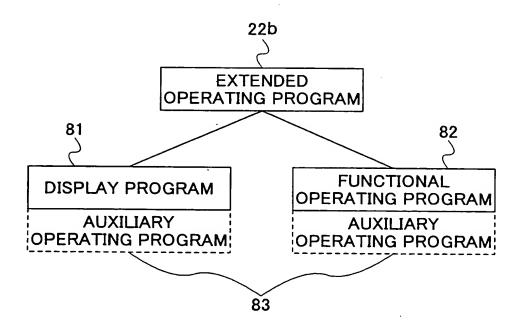


FIG.34

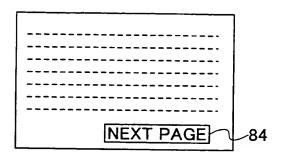


FIG.35

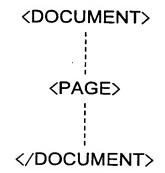


FIG.36

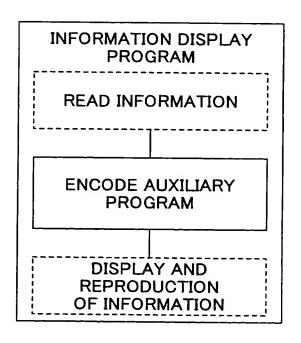


FIG.37

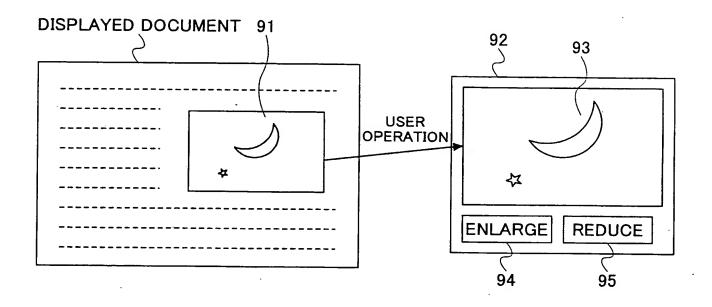
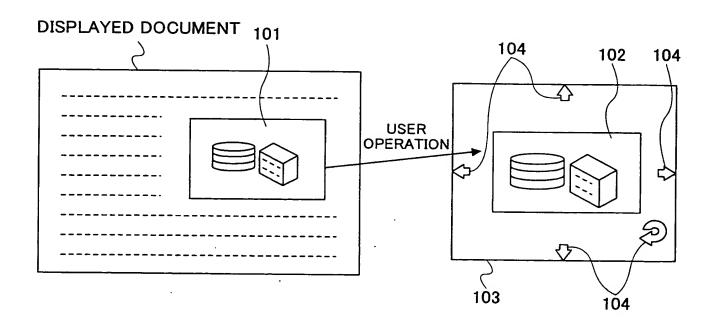


FIG.38



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FIG.39

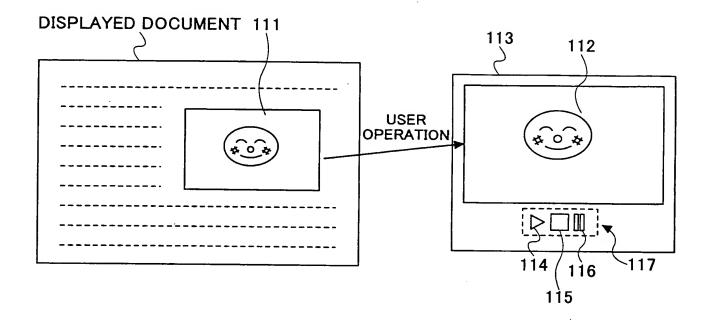
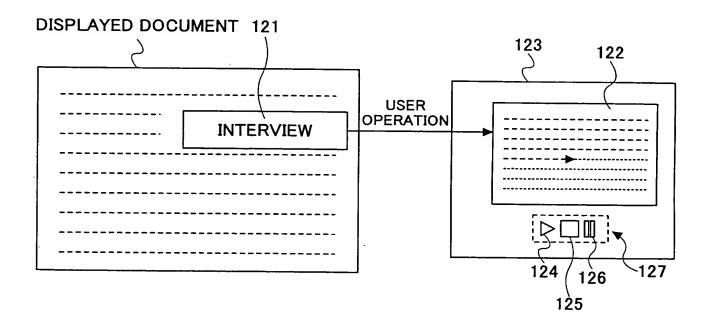


FIG.40



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FIG.41

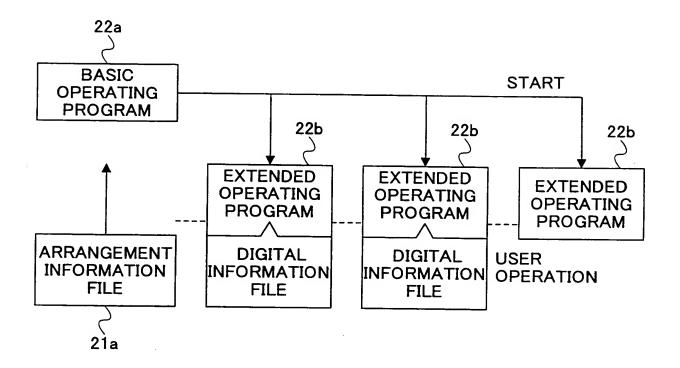
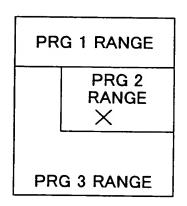
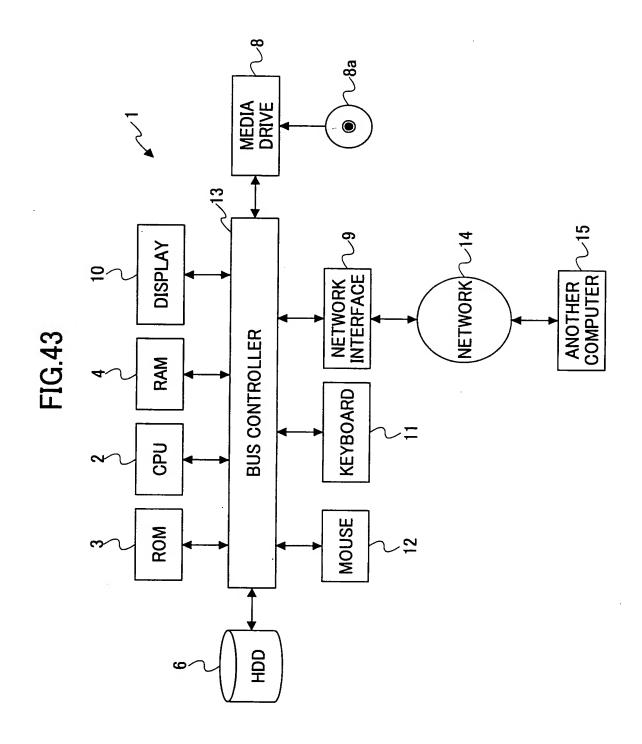


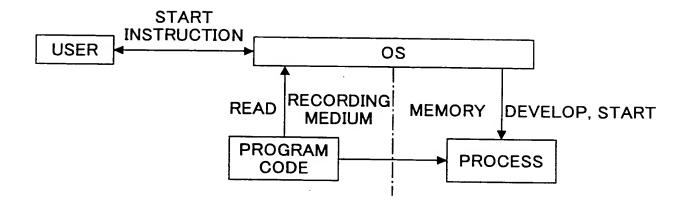
FIG.42





v:

FIG.44



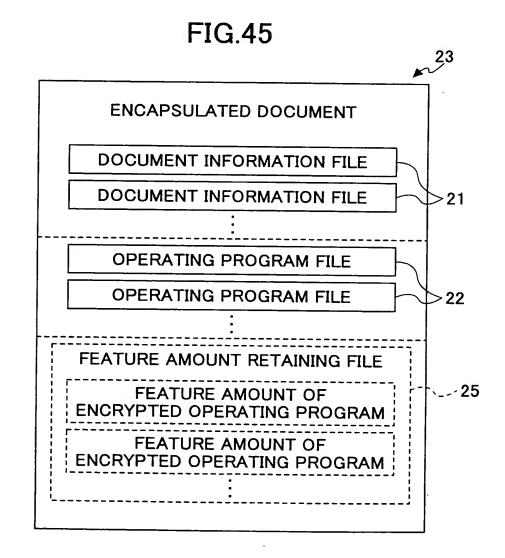
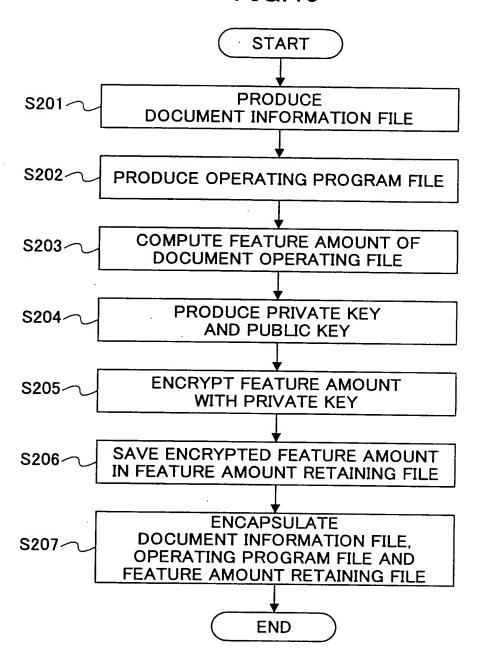


FIG.46



<FEATURE AMOUNT FILE>

<FEATURE AMOUNT COMPUTATION INFORMATION ALGORITHM = "SHA-1"/>

<OPERATING PROGRAM 1 OPERATING PROGRAM NAME = "DOCUMENT PRODUCING PROGRAM"</p> FEATURE AMOUNT = "8KBDi/AdAonBKtuztspftk4t/qc="

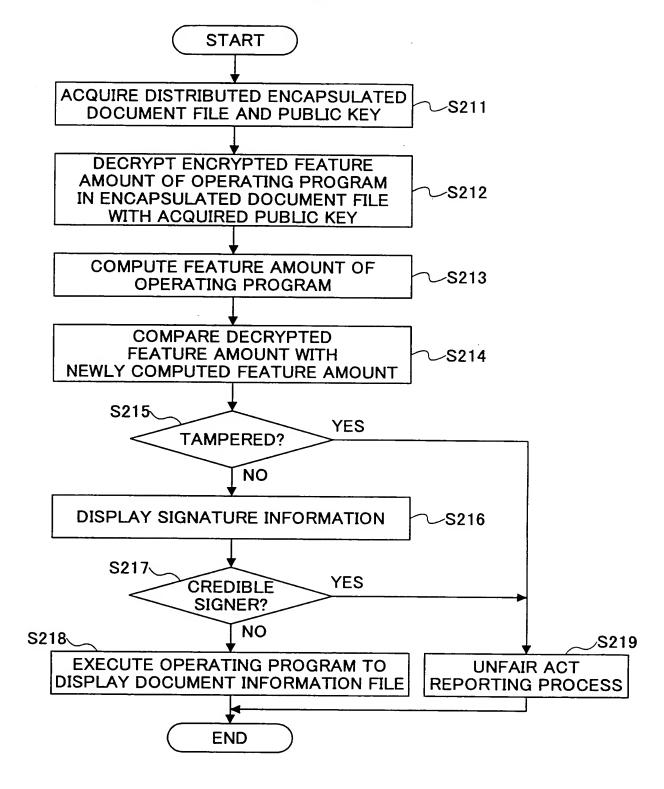
OPERATING PROGRAM 2 OPERATING PROGRAM NAME = "DOCUMENT ACCESSING PROGRAM" FEATURE AMOUNT = "8KBDi/setasetutwetsptaett/qc=" <OPERATING PROGRAM 3 OPERATING PROGRAM NAME = "OPERATION VERIFICATION PROGRAM"</p> FEATURE AMOUNT = "8KBDi/tajeiue4tuztspfetset/qc="

•••

<OPERATING PROGRAM 10 OPERATING PROGRAM NAME = "MUSIC REPRODUCING PROGRAM"</p> FEATURE AMOUNT = "8KBDi/AderetstKtuztsfetsfy/qc='

</FEATURE AMOUNT FILE>

FIG.48



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FIG.49

KINDS OF OPERATION RIGHTS	MODES OF OPERATION RIGHTS				
	Α	В	С	D	
READ FILE IN ENCAPSULATED DOCUMENT	×	0	0	0	
READ FILE IN COMPUTER	×	×	0	0	
READ AND WRITE FILE IN ENCAPSULATED DOCUMENT	×	×	×	0	
READ AND WRITE FILE IN COMPUTER	×	×	×	×	• • • •
RECEIVE PACKET OF NETWORK	×	×	×	×	
TRANSMIT PACKET OF NETWORK	×	×	×	×	
:					

FIG.50

```
<FEATURE AMOUNT FILE>
```

<FEATURE AMOUNT COMPUTATION INFORMATION ALGORITHM = "SHA-1"/>

<OPERATING PROGRAM 1 OPERATING PROGRAM NAME = "DOCUMENT PRODUCING PROGRAM"</p>

FEATURE AMOUNT = "8KBDi/AdAonBKtuztspftk4t/qc="

PUBLIC KEY INFORMATION = "adklsad49SSDgms"/>

<OPERATING PROGRAM 2 OPERATING PROGRAM NAME = "DOCUMENT ACCESSING PROGRAM"</p>

FEATURE AMOUNT = "8KBDi/setasetutwetsptaett/qc="

PUBLIC KEY INFORMATION = "SBSdatajsDgms4g"/>

<OPERATING PROGRAM 3 OPERATING PROGRAM NAME = "OPERATION VERIFICATION PROGRAM"</p>

FEATURE AMOUNT = "8KBDi/tajeiue4tuztspfetset/qc="

PUBLIC KEY INFORMATION = "www.xxxxx.co.jp/location3/Key/"/>

• • •

<OPERATING PROGRAM 10 OPERATING PROGRAM NAME = "MUSIC REPRODUCING PROGRAM"</p> $FEATURE\ AMOUNT = "8KBDi/AderetstKtuztsfetsfy/qc='$

PUBLIC KEY INFORMATION = "rttszrgrgklsadees3"/>

</FEATURE AMOUNT FILE>

FIG.51

<FEATURE AMOUNT FILE>

```
(OPERATING PROGRAM 3 OPERATING PROGRAM NAME = "OPERATION VERIFICATION PROGRAM"
                                                             COPERATING PROGRAM 1 OPERATING PROGRAM NAME = "DOCUMENT PRODUCING PROGRAM"
                                                                                                                                                                                                                                                                                                               COPERATING PROGRAM 2 OPERATING PROGRAM NAME = "DOCUMENT ACCESSING PROGRAM"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <OPERATING PROGRAM 10 OPERATING PROGRAM NAME = "MUSIC REPRODUCING PROGRAM"</p>
<FEATURE AMOUNT COMPUTATION INFORMATION ALGORITHM = "SHA-1"/>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PUBLIC KEY INFORMATION = "www.xxxxx.co.jp/location3/Key/"/>
                                                                                                                    LOCATION INFORMATION= "www.xxxxx.co.jp/location1/"
                                                                                                                                                                                      FEATURE AMOUNT = "8KBDi/AdAonBKtuztspftk4t/qc="
                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE AMOUNT = "8KBDi/setasetutwetsptaett/qc="
                                                                                                                                                                                                                                                                                                                                                                                  LOCATION INFORMATION= "www.xxxxx.co.jp/location2/"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCATION INFORMATION= "www.xxxxx.co.jp/location3/"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE AMOUNT = "8KBDi/tajeiue4tuztspfetset/qc="
                                                                                                                                                                                                                                                    PUBLIC KEY INFORMATION = "adklsad49SSDgms"/>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PUBLIC KEY INFORMATION = "SBSdatajsDgms4g"/>
```

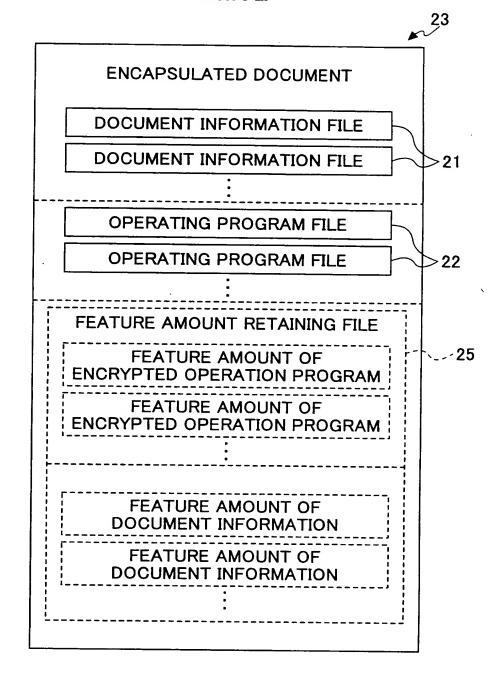
</FEATURE AMOUNT FILE>

LOCATION INFORMATION= "www.xxxxx.co.jp/location10/"

FEATURE AMOUNT = "8KBDi/AderetstKtuztsfetsfy/qc="

PUBLIC KEY INFORMATION = "rttszrgrgklsadees3"/>

FIG.52



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FIG.53

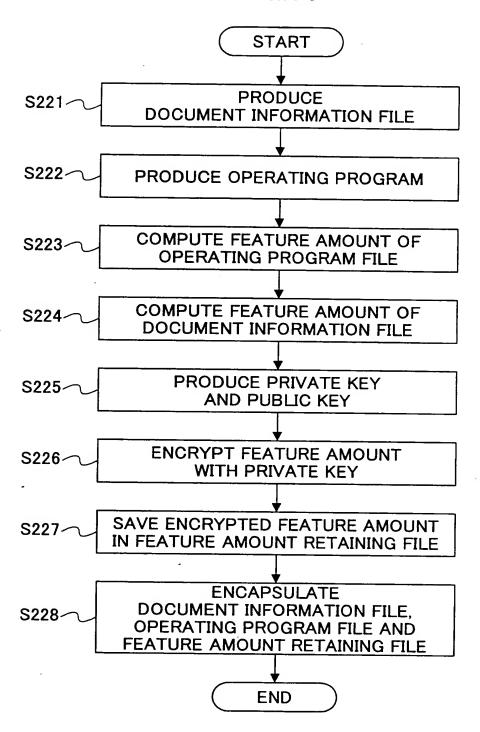
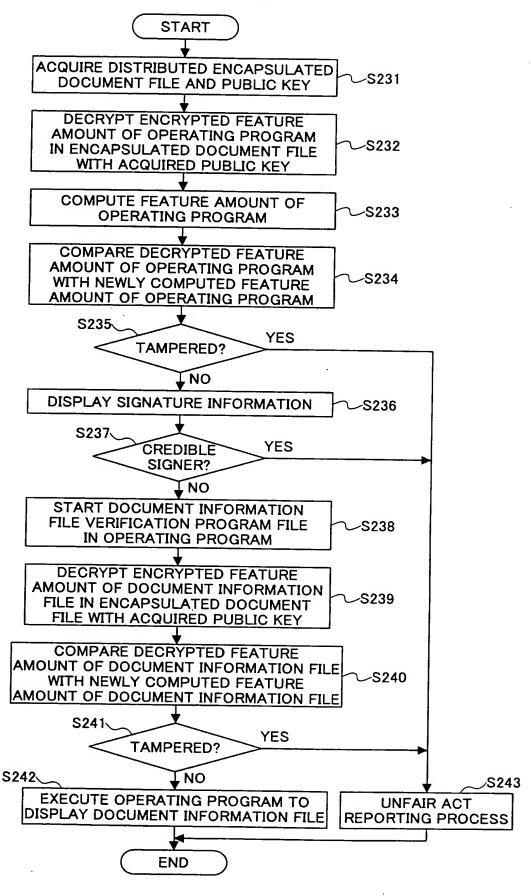


FIG.54



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FIG 55

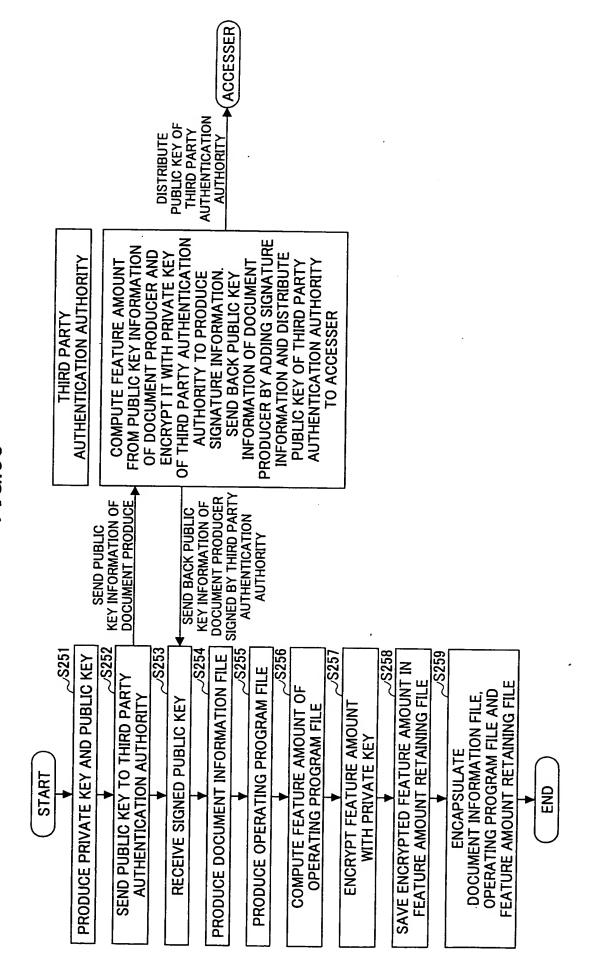
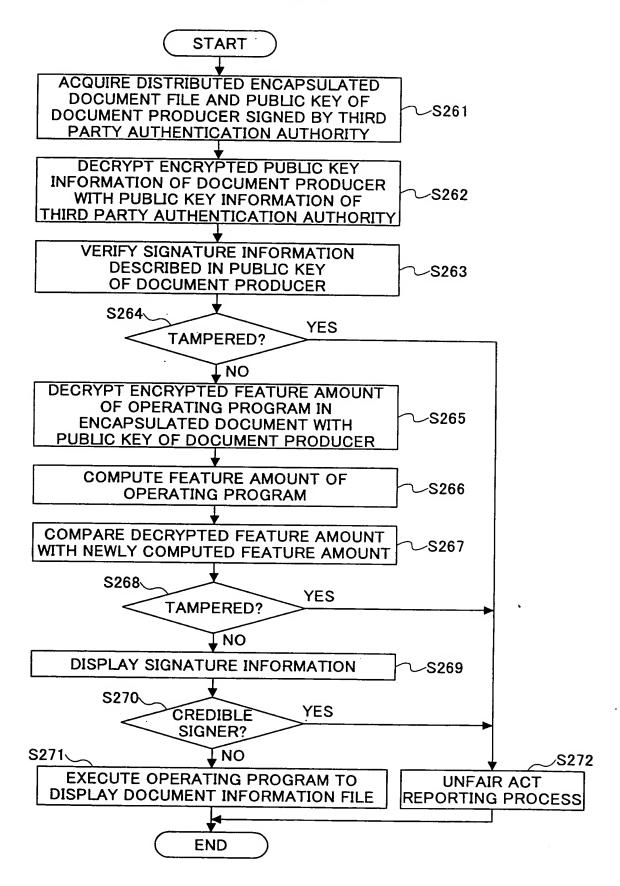
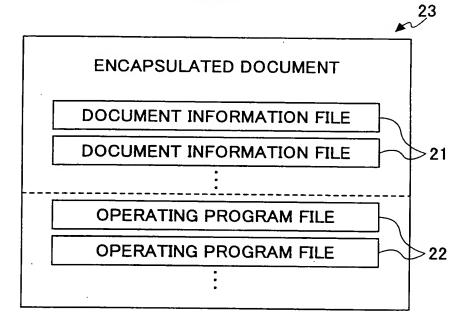


FIG.56



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FIG.57



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FIG.58

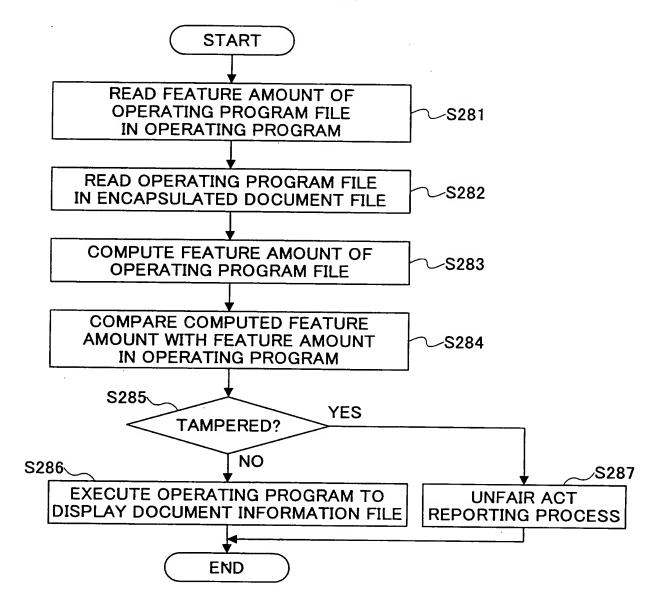
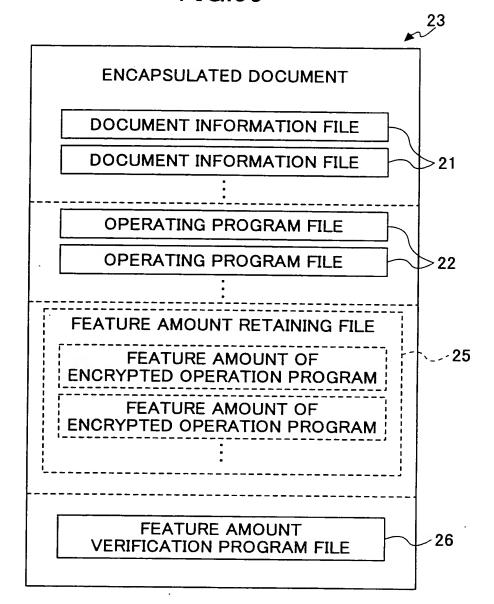


FIG.59



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FIG.60

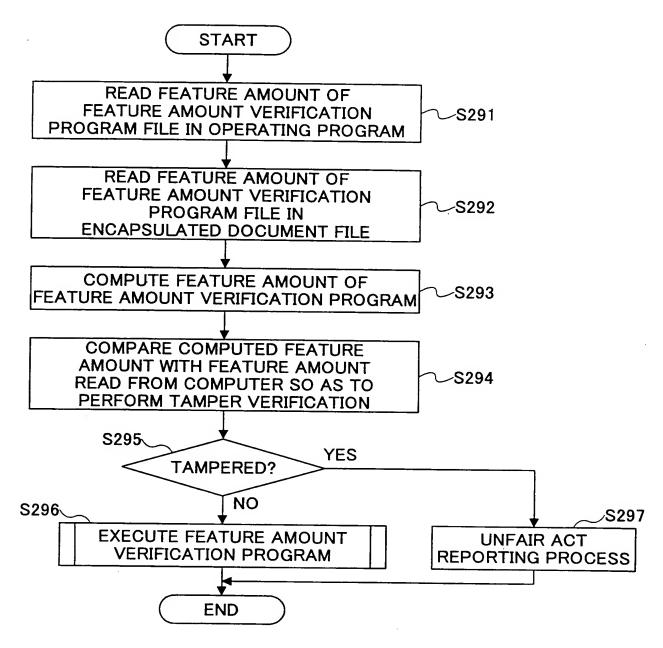


FIG.61

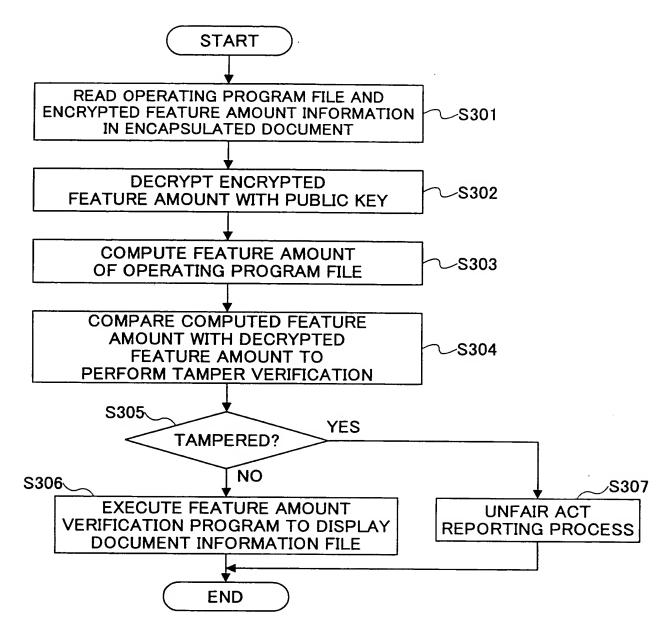
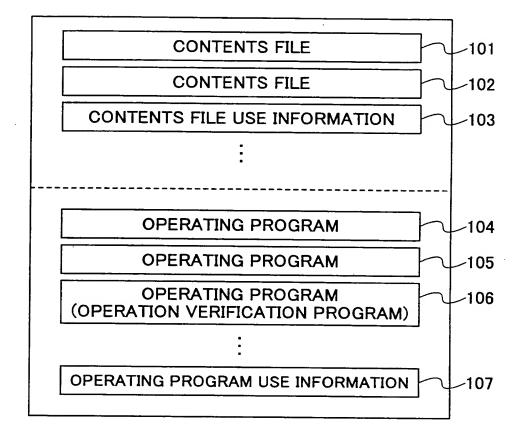


FIG.62



```
<FEATURE AMOUNT INFORMATION ALGOLITHM = "SHA-1" PUBLIC KEY INFORMATION = adklsad49SSDgms"/>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <OPERATING PROGRAM 3 OPERATING PROGRAM NAME = "OPERATION VERIFICATION PROGRAM"</p>
                                                                                                                       <OPERATING PROGRAM 1 OPERATING PROGRAM NAME = "DOCUMENT PRODUCING PROGRAM"</p>
                                                                                                                                                                                                                                                                                                                               <OPERATING PROGRAM 2 OPERATING PROGRAM NAME = "DOCUMENT ACCESSING PROGRAM"</p>
                                                                                                                                                                                                                                                             FEATURE AMOUNT = "8KBDi/AdAonBKtuztspftk4t/qc="/>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE AMOUNT = "8KBDi/setasetutwetsptaett/qc="/>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE AMOUNT = "8KBDi/tajeiue4tuztspfetset/qc= "/>
                                                                                                                                                                                           LOCATION INFORMATION = "www.ricoh.co.jp/location1/"
                                                                                                                                                                                                                                                                                                                                                                                                 LOCATION INFORMATION= "www.ricoh.co.jp/location2/"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION INFORMATION= "www.ricoh.co.jp/location3/"
SECURITY>
```

</SECURITY>

<OPERATING PROGRAM 10 OPERATING PROGRAM NAME = "MUSIC REPRODUCING PROGRAM"</p>

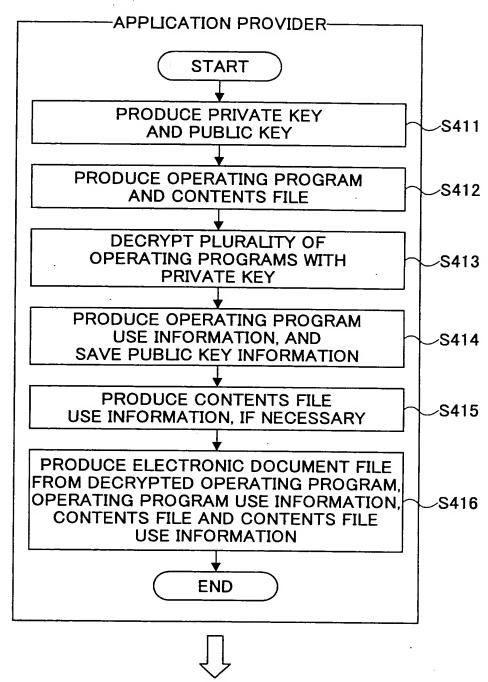
FEATURE AMOUNT = "8KBDi/AderetstKtuztsfetsfy/qc="/>

LOCATION INFORMATION= "www.ricoh.co.jp/location10/"

FIG.64

[APPLICATION PROVIDER] PRODUCE PRIVATE KEY AND PUBLIC KEY DISTRIBUTE ELECTRONIC DOCUMENT FILE COMPRISING PLURALITY OF OPERATING PROGRAMS. OPERATING PROGRAM USE INFORMATION, ₩**S401** CONTENTS FILE AND CONTENTS FILE USE INFORMATION TO DOCUMENT PRODUCER DISTRIBUTION [DOCUMENT PRODUCER] ACQUIRE PUBLIC KEY ACQUIRE ELECTRONIC DOCUMENT FILE FROM APPLICATION PROVIDER, ADD DOCUMENT CONTENTS **₩**S402 TO BE TRANSMITTED TO DOCUMENT ACCESSER TO CONTENTS FILE USING OPERATING PROGRAM. AND DISTRIBUTE ELECTRONIC DOCUMENT FILE TO DOCUMENT ACCESSER DISTRIBUTION [DOCUMENT ACCESSER] ACQUIRE PUBLIC KEY ACQUIRE ELECTRONIC DOCUMENT FILE AND PUBLIC KEY, DECRYPT OPERATING PROGRAM ENCRYPTED WITH PUBLIC KEY, AND ACCESS CONTENTS FILE BY EXECUTING **₩**S403 OPERATING PROGRAM IS NOT TAMPERED BY DOCUMENT PRODUCER

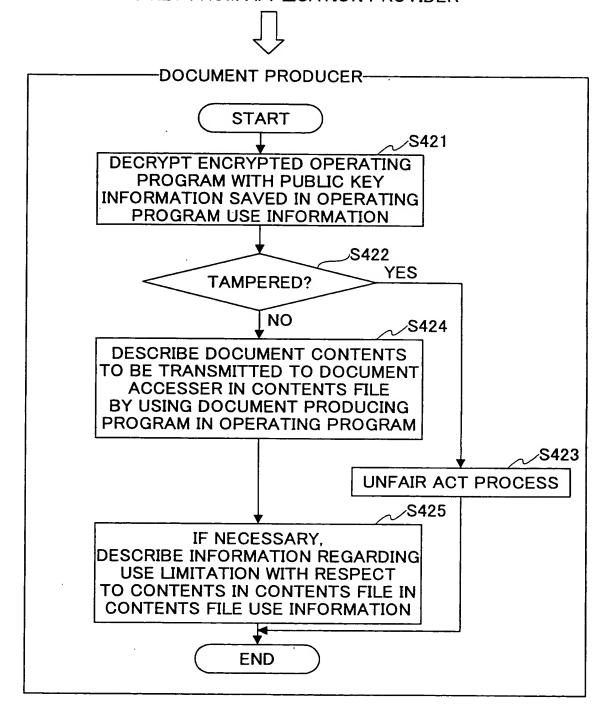
FIG.65



DISTRIBUTE PRODUCED ELECTRONIC DOCUMENT FILE TO DOCUMENT PRODUCER

FIG.66

ACQUIRE ELECTRONIC DOCUMENT FILE AND PUBLIC KEY FROM APPLICATION PROVIDER





DISTRIBUTE ELECTRONIC DOCUMENT FILE TO DOCUMENT ACCESSER

FIG.67

ACQUIRE ELECTRONIC DOCUMENT FILE AND PUBLIC KEY FROM DOCUMENT PRODUCER

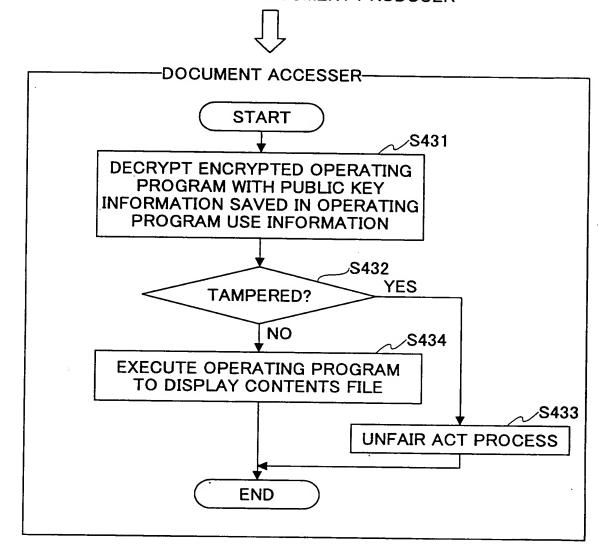
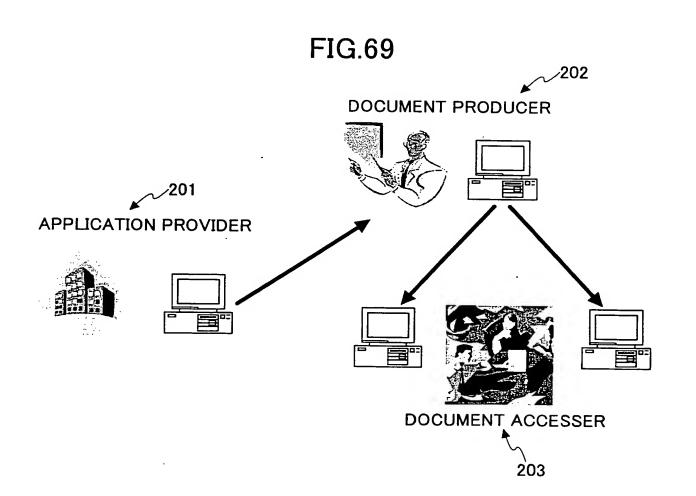


FIG.68

KINDS OF OPERATION RIGHTS	MODES OF OPERATION RIGHTS				
READ FILE IN ENCAPSULATED DOCUMENT	×	0	0	0	
READ FILE IN COMPUTER	×	×	0	0	;
READ AND WRITE FILE IN ENCAPSULATED DOCUMENT	×	×	×	0	
READ AND WRITE FILE IN COMPUTER	×	×	×	×	••••
RECEIVE PACKET OF NETWORK	×	×	×	×	
TRANSMIT PACKET OF NETWORK	×	×	×	×	
•					



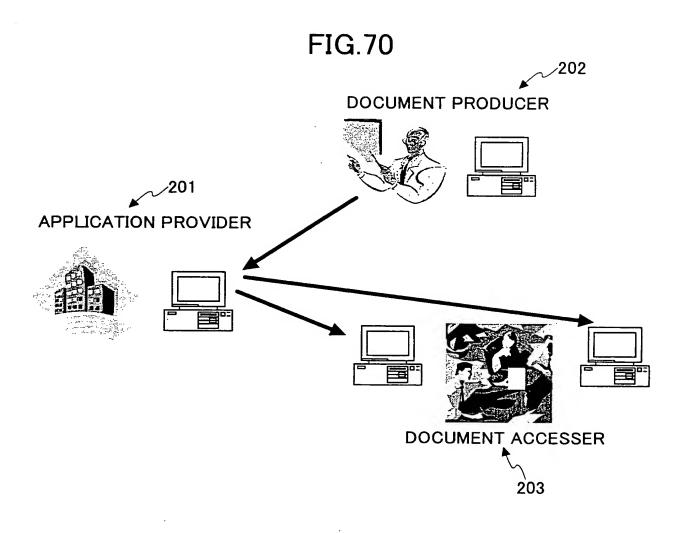


FIG.71

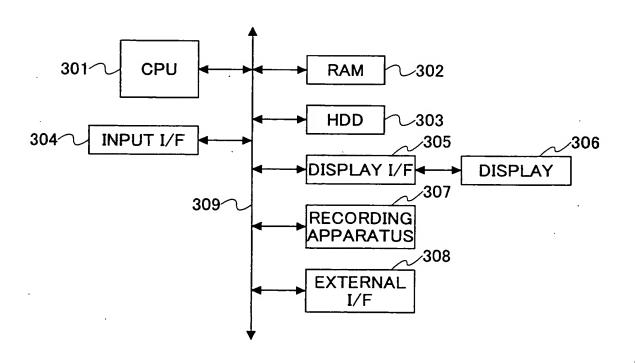
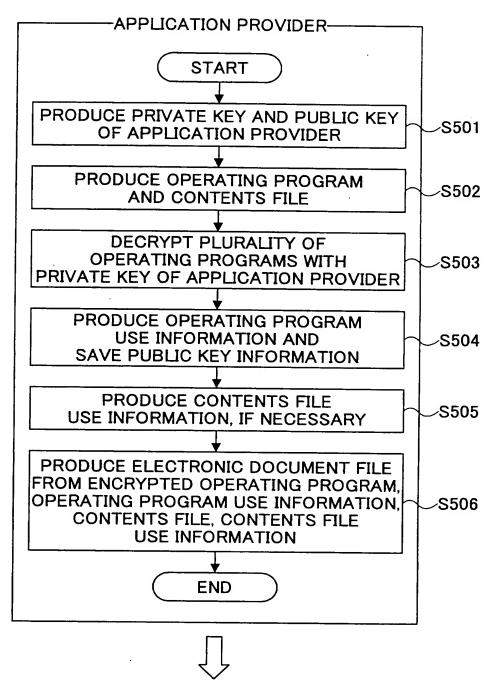


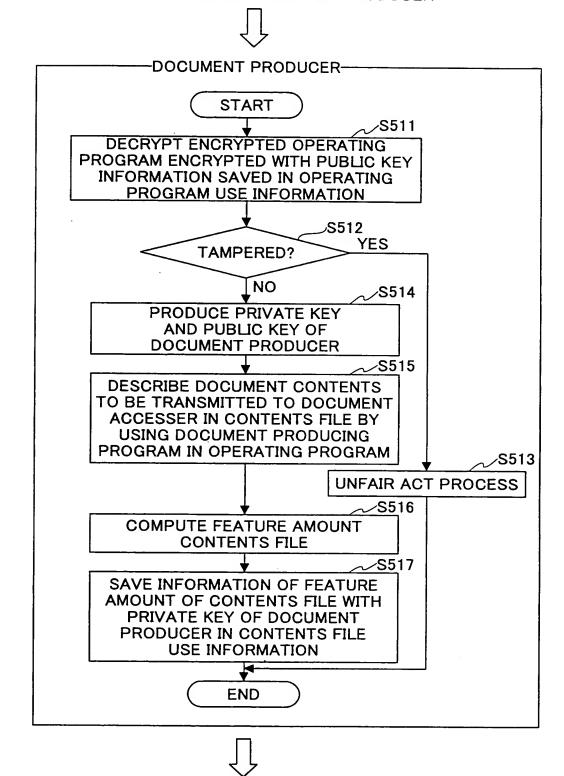
FIG.72



DISTRIBUTE PRODUCED ELECTRONIC DOCUMENT FILE TO DOCUMENT PRODUCER

FIG.73

ACQUIRE ELECTRONIC DOCUMENTS FILE AND PUBLIC KEY FROM APPLICATION PRODUCER



DISTRIBUTE ELECTRONIC DOCUMENT FILE TO DOCUMENT ACCESSER

FIG.74

ACQUIRE ELECTRONIC FILE AND PUBLIC KEY FROM DOCUMENT PRODUCER

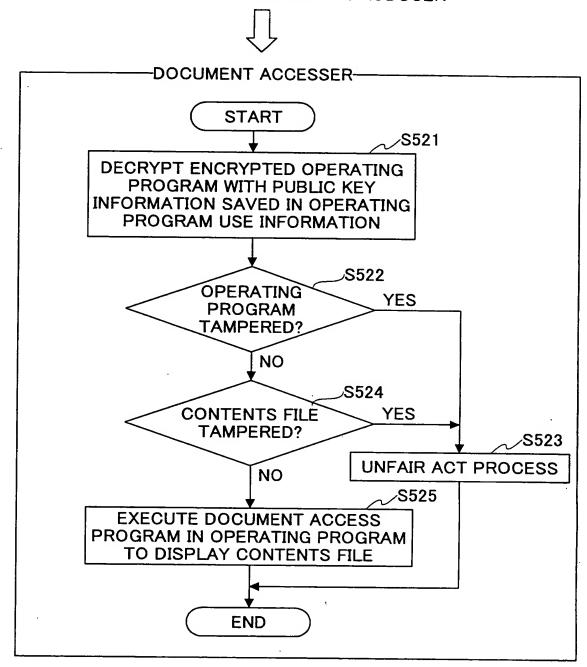
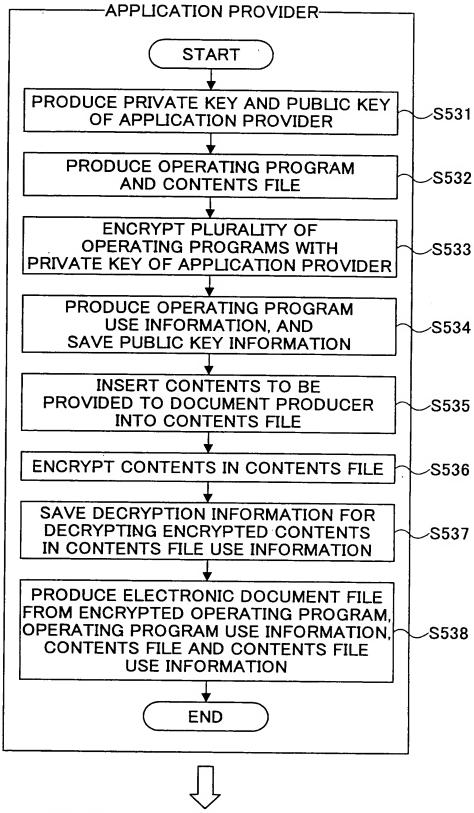


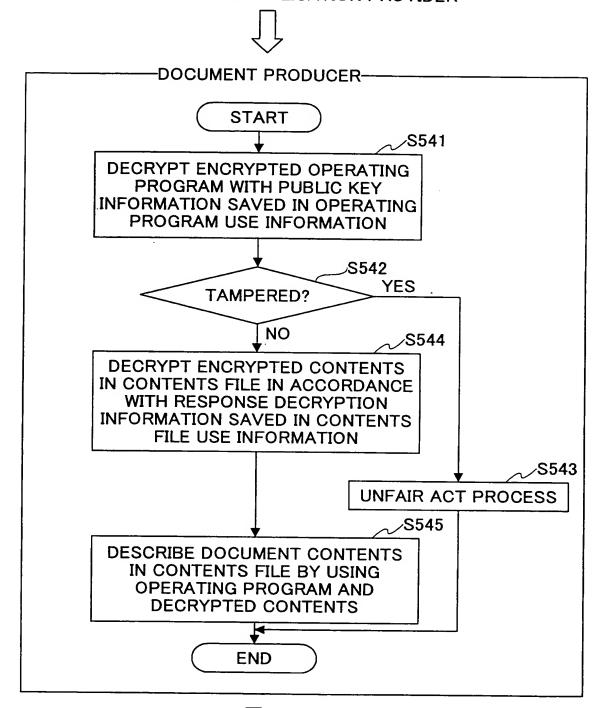
FIG.75



DISTRIBUTE PRODUCER ELECTRONIC DOCUMENT FILE TO DOCUMENT PRODUCER

FIG.76

ACQUIRE ELECTRONIC DOCUMENT FILE AND PUBLIC KEY FORM APPLICATION PROVIDER



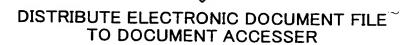


FIG.77

ACQUIRE ELECTRONIC DOCUMENT FILE AND PUBLIC KEY FROM DOCUMENT PRODUCER

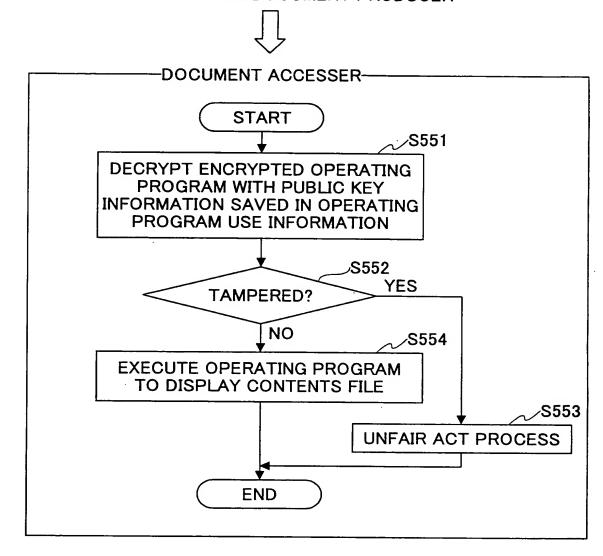
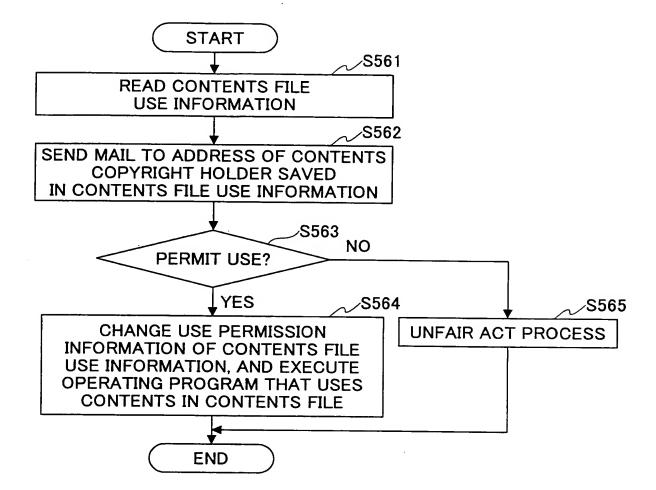


FIG.78



CONTENTS FILE USE INFORMATION

PRODUCER NAME: Mr. A

ADDRESS: www.ricoh.co. ip/location1,

USE FEE: ???\$

IYPE: DYNAMIC IMAGE INFORMATION

CONTENTS: GRIMM'S STORY

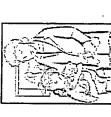
AGE: 5-8

USE PERMISSION: O

LOCATION INFORMATION OF CONTENTS FILE: /location1/



CONTENTS FILE: (/location1/)



CONTENTS FILE USE INFORMATION

PRODUCER NAME: Mr. B

ADDRESS: www.ricoh.co. ip/location2/

USE FEE: ???\$

TYPE: DYNAMIC IMAGE INFORMATION CONTENTS: horror movie

AGE: use prohibited for under 18

USE PERMISSION: x

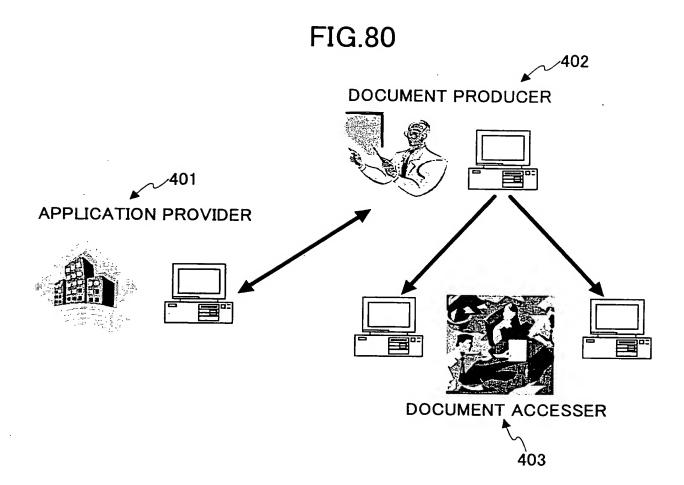
LOCATION INFORMATION OF CONTENTS FILE: /location2/



CONTENTS FILE: (/location2/)







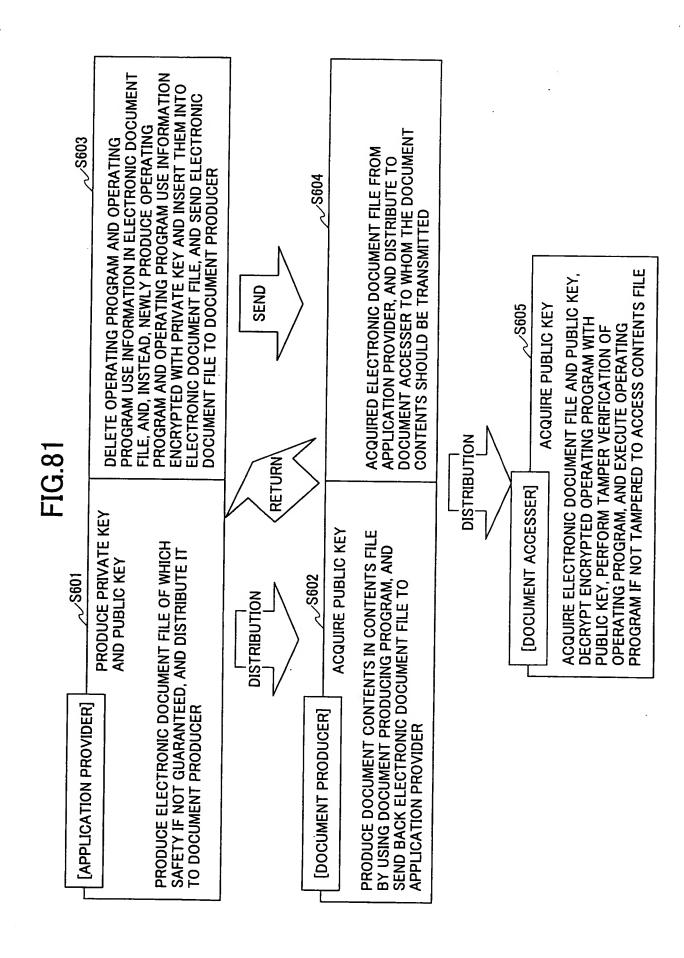
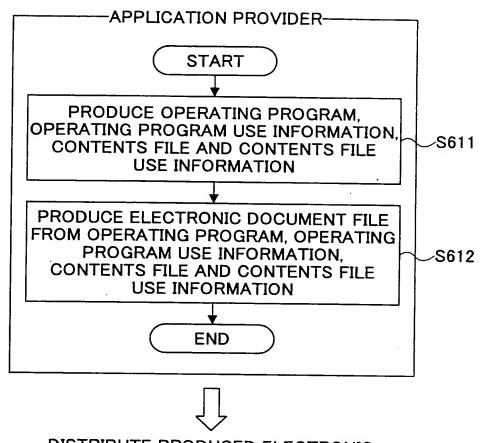


FIG.82

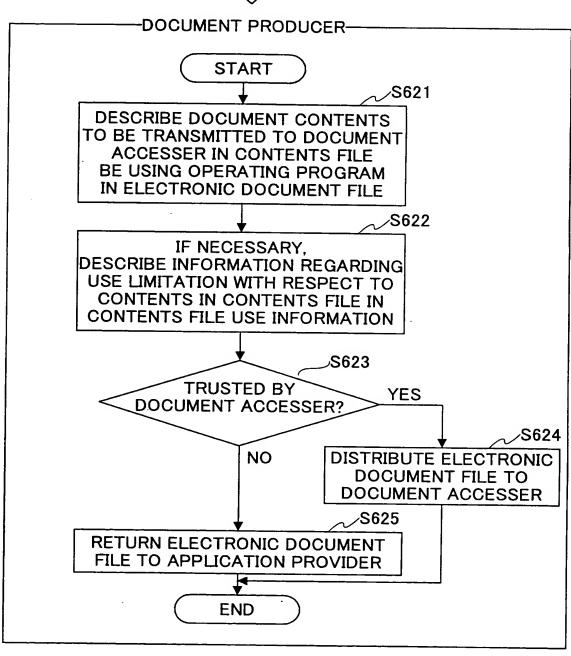


DISTRIBUTE PRODUCED ELECTRONIC DOCUMENT FILE TO DOCUMENT PRODUCER

FIG.83

ACQUIRE ELECTRONIC DOCUMENT FROM APPLICATION PROVIDER





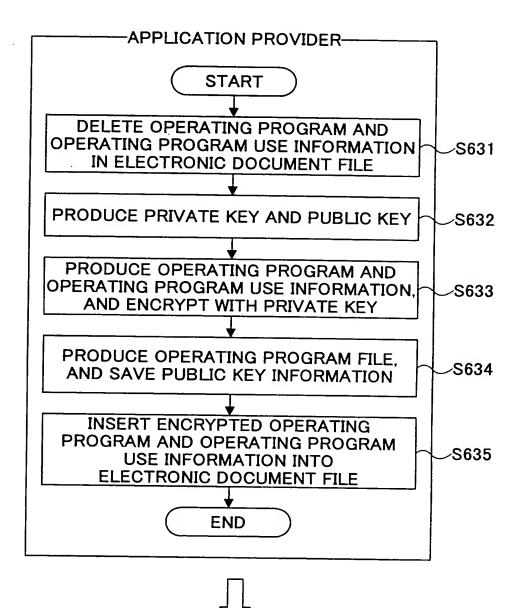


DISTRIBUTE ELECTRONIC DOCUMENT FILE TO APPLICATION PROVIDER OR DOCUMENT ACCESSER

FIG.84

ACQUIRE ELECTRONIC DOCUMENT FILE FROM DOCUMENT PRODUCER



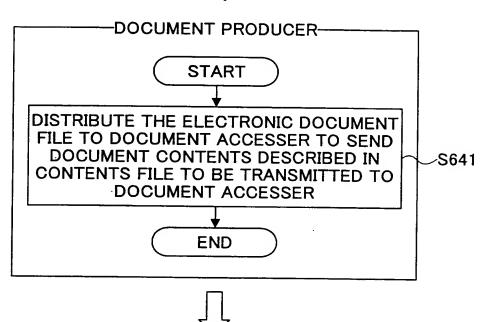


RETURN PRODUCED ELECTRONIC DOCUMENT FILE TO DOCUMENT PRODUCER

FIG.85

ACQUIRE ELECTRONIC DOCUMENT FILE FROM APPLICATION PROVIDER





DISTRIBUTE ELECTRONIC DOCUMENT FILE TO DOCUMENT ACCESSER

~S655 **UNFAIR ACT PROCESS S652** S654 OPERATING PROGRAM WITH PUBLIC KEY DECRYPT ENCRYPTED TAMPERED? 9 **EXECUTE OPERATING PROGRAM** YES TO DISPLAY CONTENTS FILE PUBLIC KEY FROM ELECTRONIC DOCUMENT FILE ~S656 ACQUIRE ELECTRONIC DOCUMENT FILE AND S651 SAFETY OF ELECTRONIC DOCUMENT FILE GUARANTEED BY APPLICATION PROVIDER? END -DOCUMENT ACCESSER START YES **S657** S653 ACCESSED SINCE OPERATING PROGRAM IS NOT EXECUTED **CONTENTS FILE CANNOT BE** DOCUMENT PRODUCER? ġ 9 TRUST

۲.

FIG.86

FIG.87

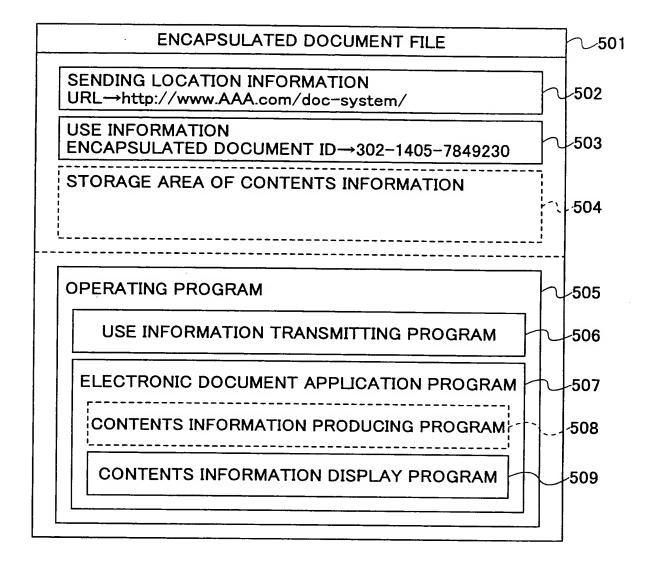


FIG.88

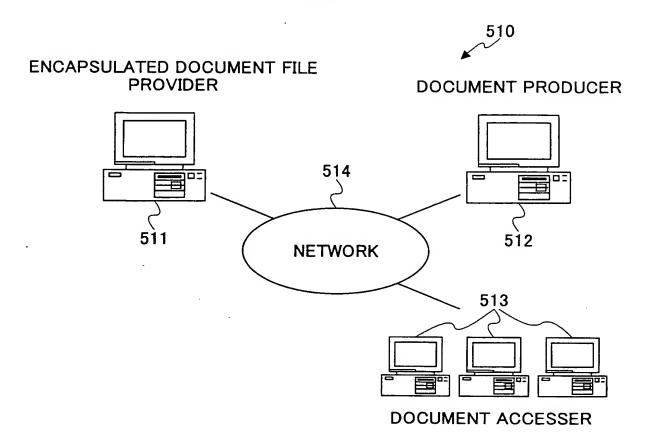
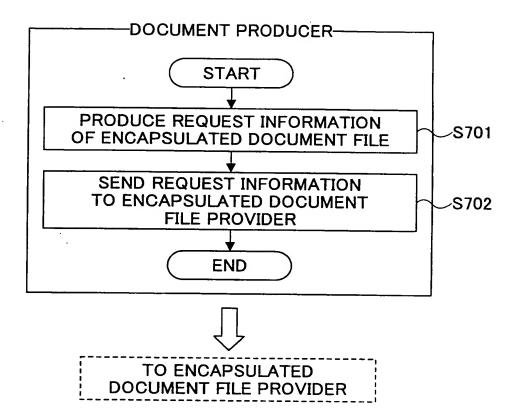


FIG.89



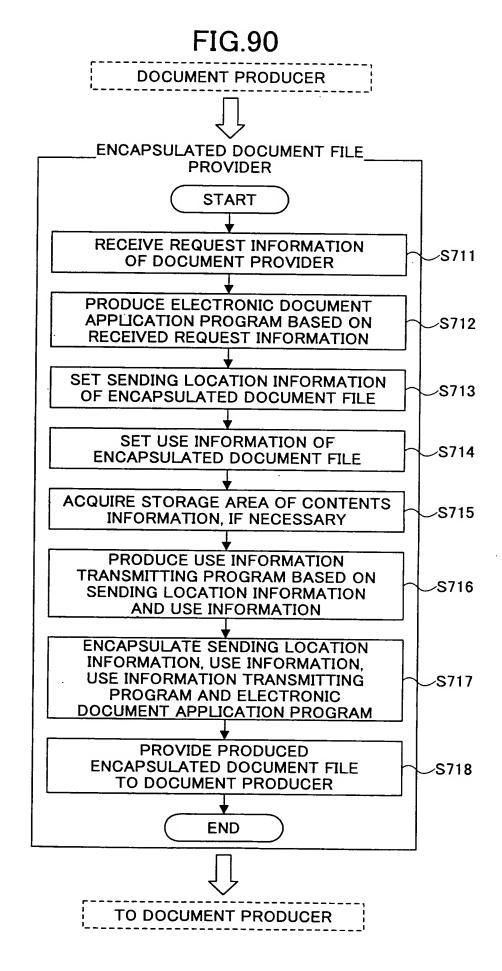


FIG.91

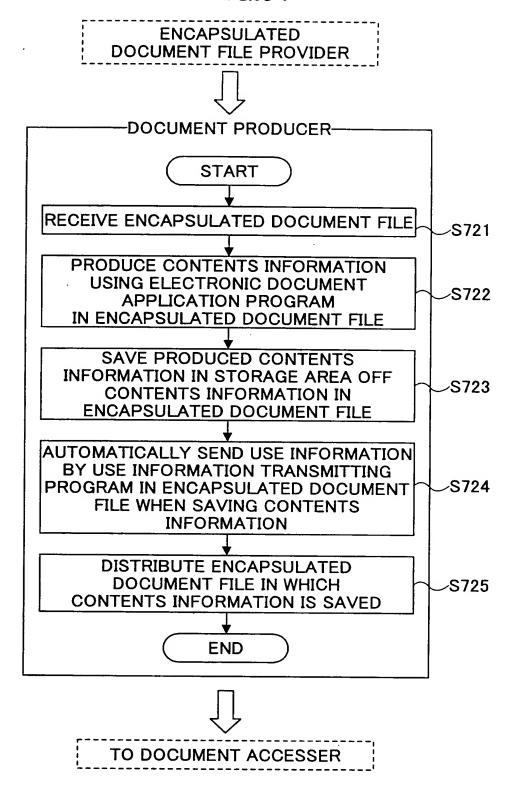


FIG.92

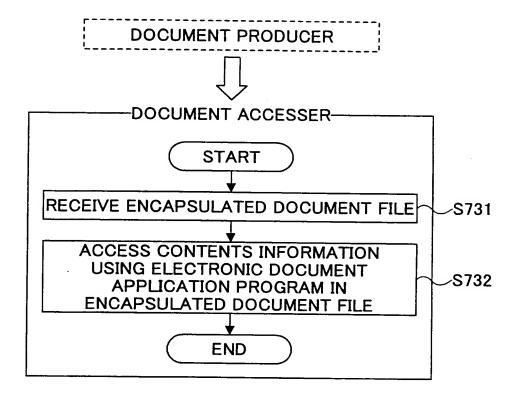


FIG.93

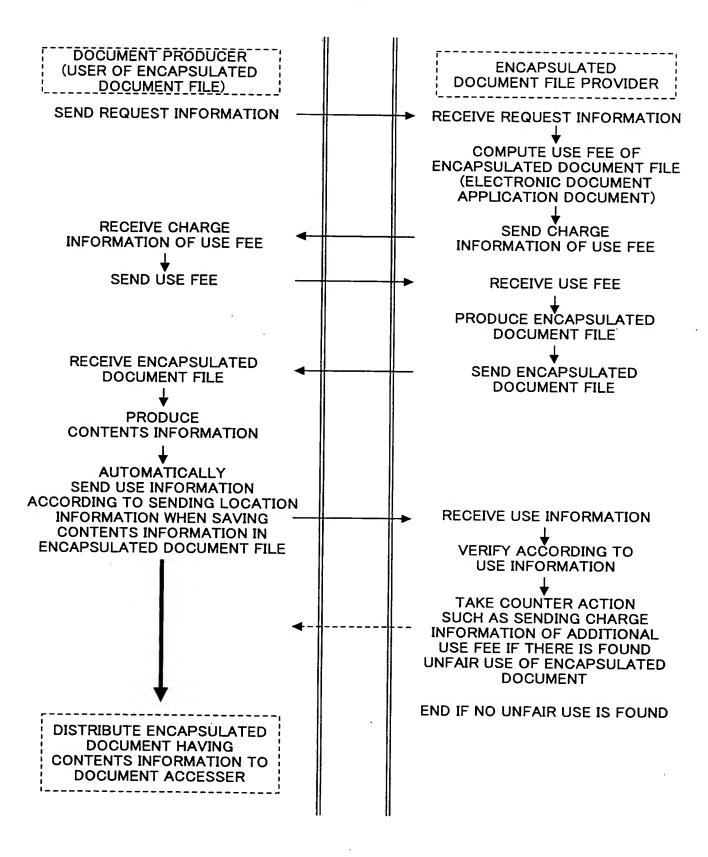
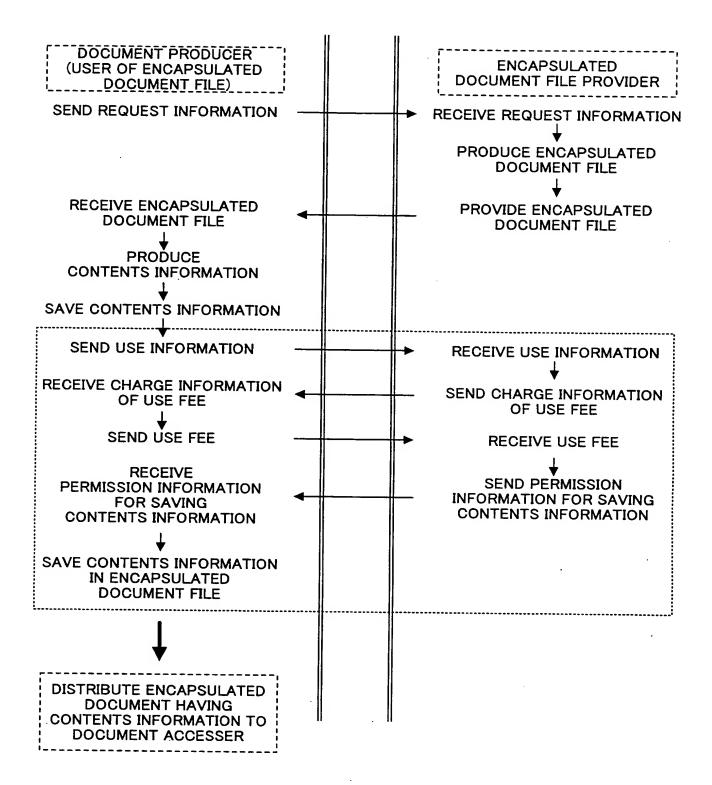


FIG.94



```
<USE INFORMATION>
  <ID NUMBER OF ENCAPSULATED DOCUMENT ID="302-1405-7849230"/>
  <LOG INFORMATION OF DOCUMENT PRODUCER NAME=TARO RICOH>
   ID="001-00010000001"
   LOCATION INFORMATION="www.writer.np.jp/taro-1/"
   SYSTEM NUMBER="794-1192-1048732"/>
 CONTENTS INFORMATION USE LIMIT NUMBER="3"
   FEATURE AMOUNT:1="8KBDi/setasetutwetsptaett/qc"
   INFORMATION AMOUNT:1="64MB"
   PRODUCE DATE:1="2003.01.12"
   FEATURE AMOUNT:2="7588i/thuisheuthaihgerettt/pf"
   INFORMATION AMOUNT:2="128MB"
   PRODUCE DATE:2="2003.01.15"
   FEATURE AMOUNT:3="....."
   INFORMATION AMOUNT:3="...."
   PRODUCE DATE:3="....."/>
 <TRANSMISSION HISTORY NUMBER OF TRANSMISSION="3"</p>
   LOCATION INFORMATION="www.ricoh.co.ip/location1/"
   TRANSMISSION DATE="2003.01.15"/>
 <OPERATING PROGRAM>
  <USE INFORMATION TRANSMISSION PROGRAM ID="001-01"</p>
   LOCATION INFORMATION="www.ricoh.co.jp/program1/"/>
  CONTENTS INFORMATION SAVE PROGRAM ID="002-01"
   SAVE PERMISSION INFORMATION="false"
   LOCATION INFORMATION="www.ricoh.co.jp/program2/"/>
  <ELECTRONIC DOCUMENT APPLICATION PROGRAM>
   CONTENTS INFORMATION PRODUCE PROGRAM ID="011-01"
     LOCATION INFORMATION="www.ricoh.co.jp/program11/"/>
   CONTENTS INFORMATION PRODUCE PROGRAM ID="012-01"
     LOCATION INFORMATION="www.ricoh.co.jp/program12/"/>
  </ELECTRONIC DOCUMENT APPLICATION PROGRAM>
<OPERATING PROGRAM>
</USE INFORMATION>
```

FIG.96

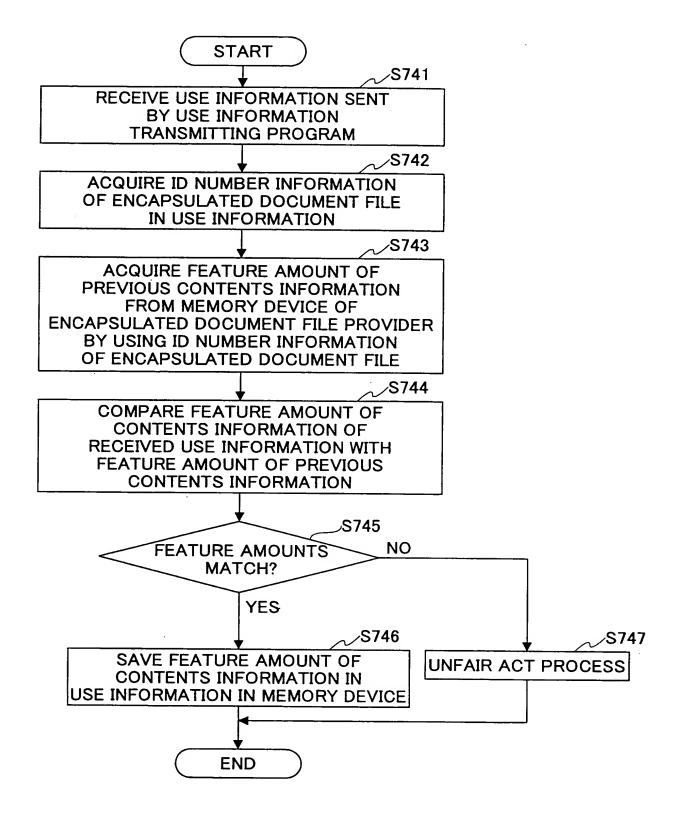


FIG.97

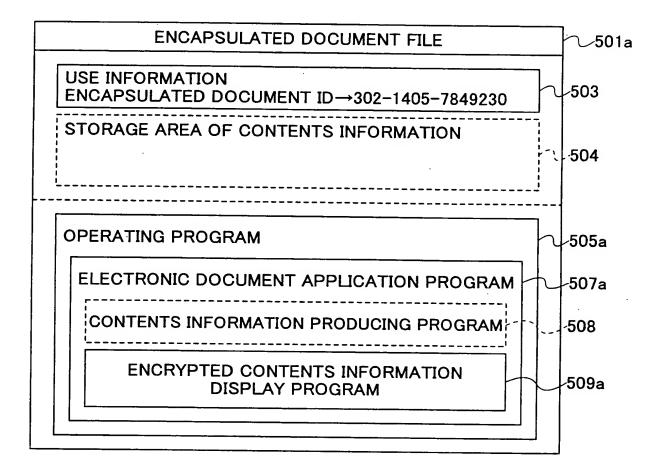
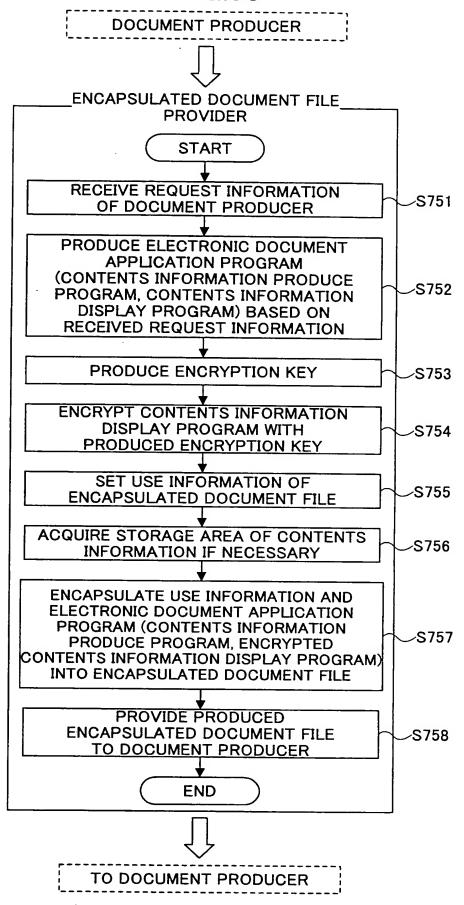


FIG.98



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FIG.99

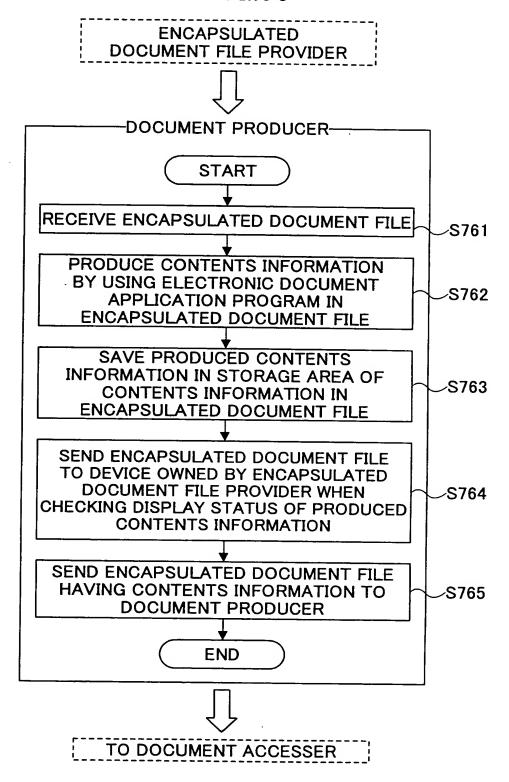


FIG.100

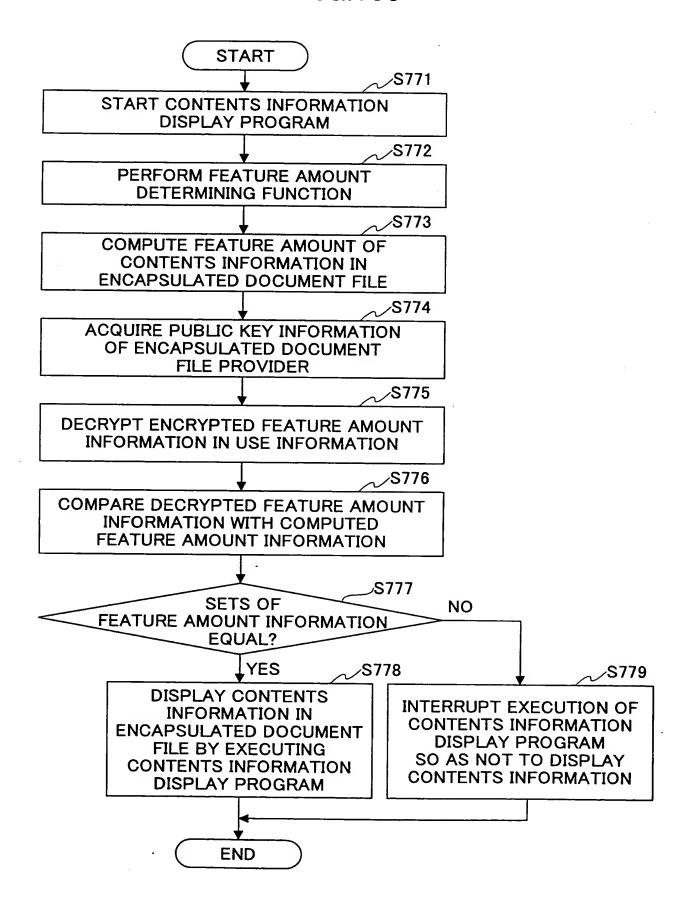


FIG.101

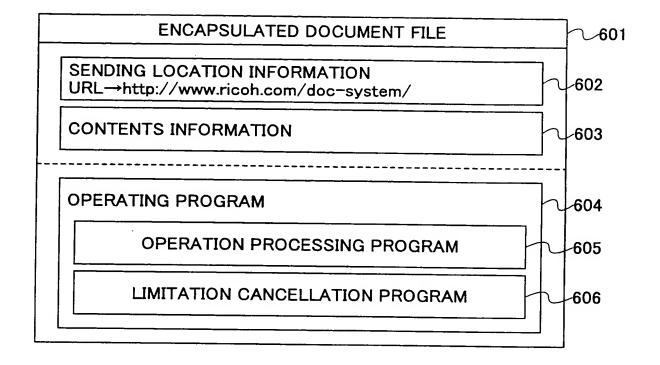


FIG.102

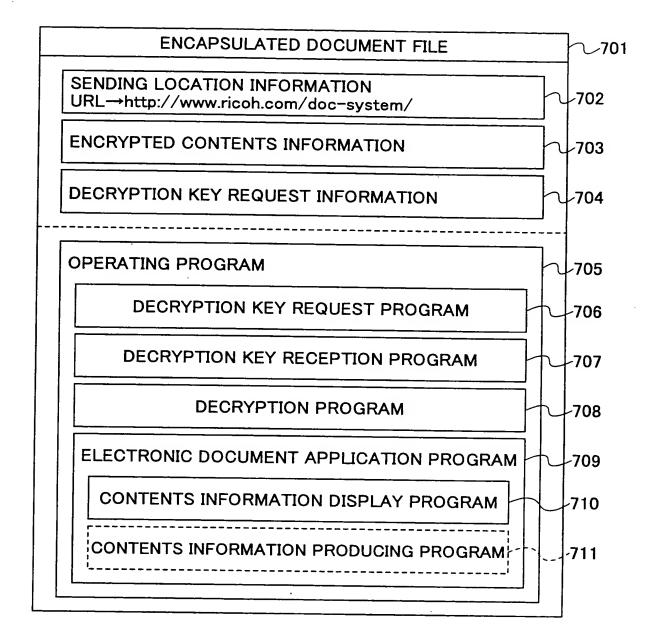


FIG.103

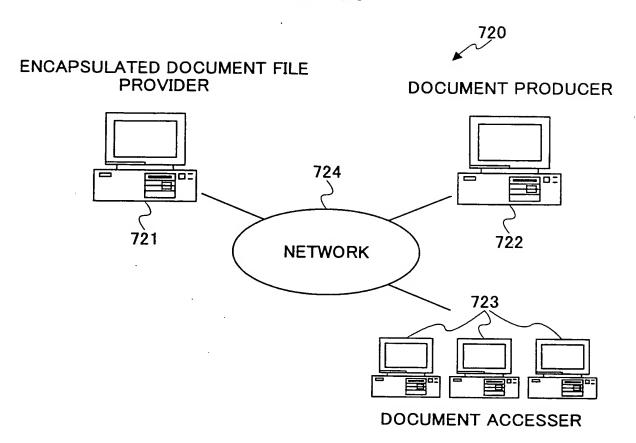


FIG.104

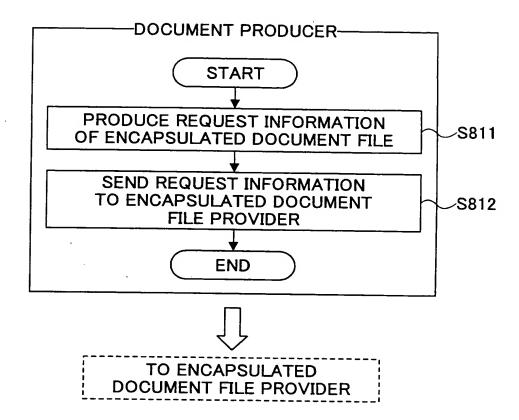


FIG.105

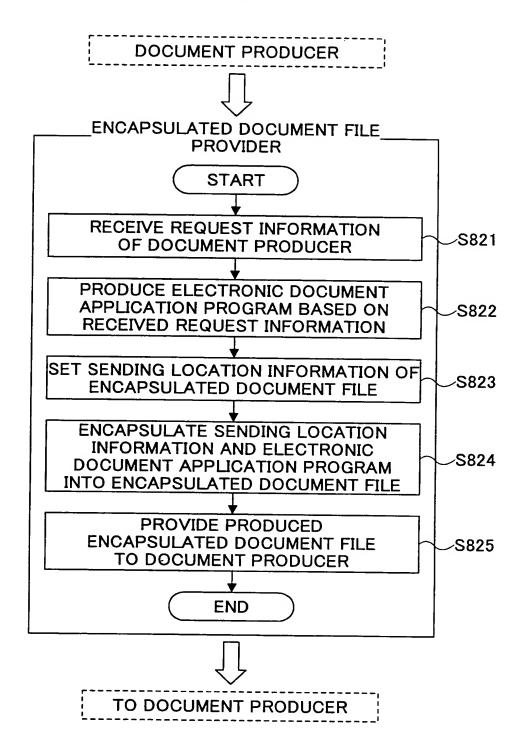


FIG.106

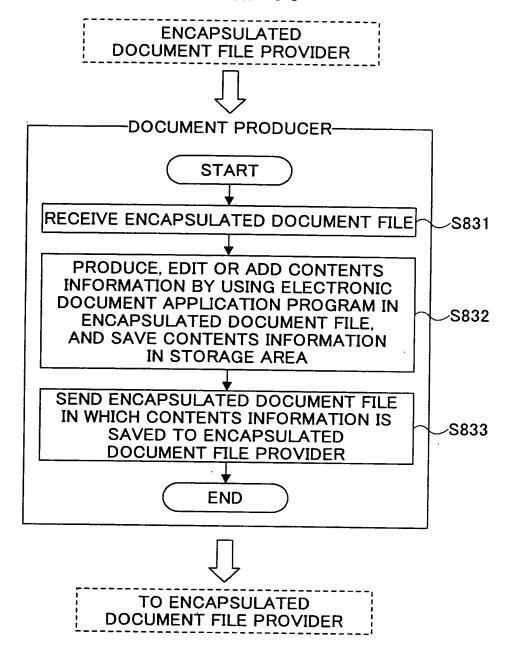


FIG.107

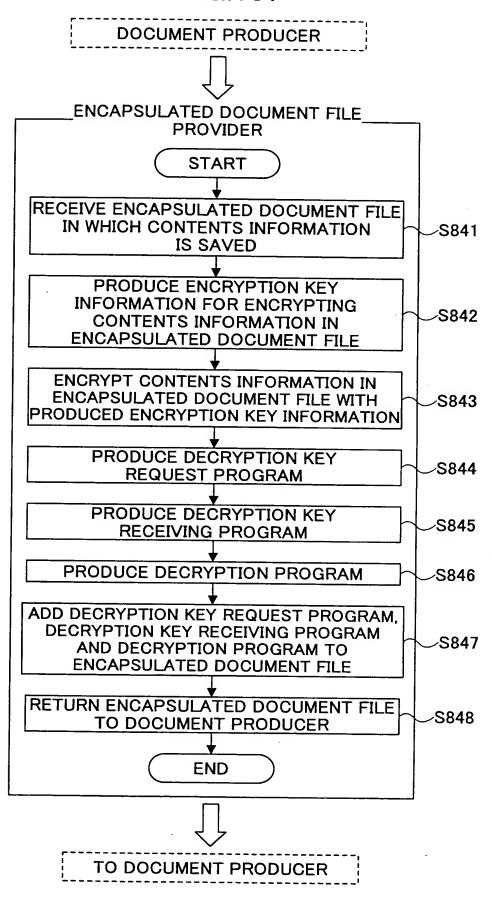


FIG.108

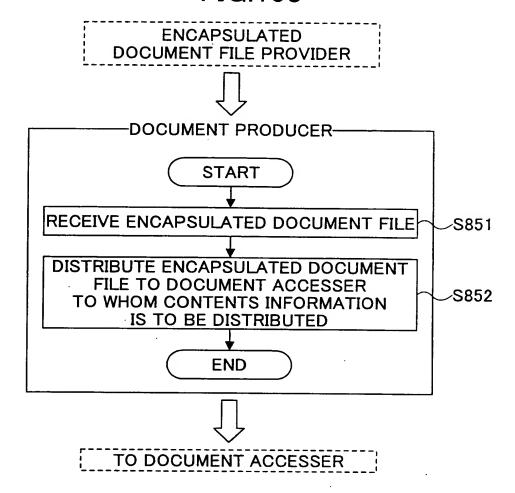


FIG.109

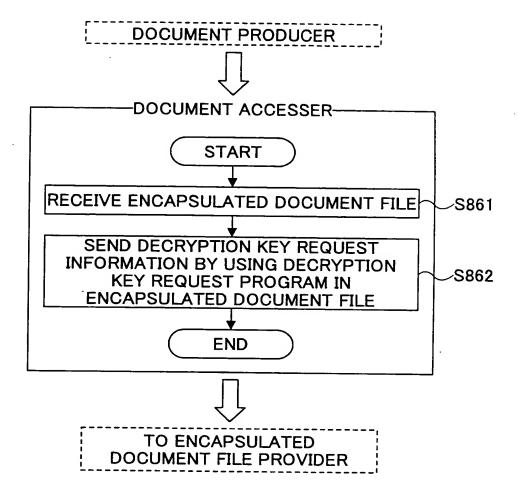


FIG.110

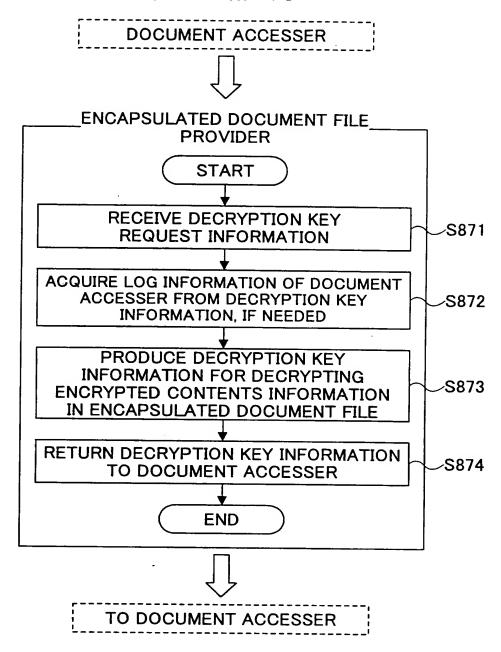
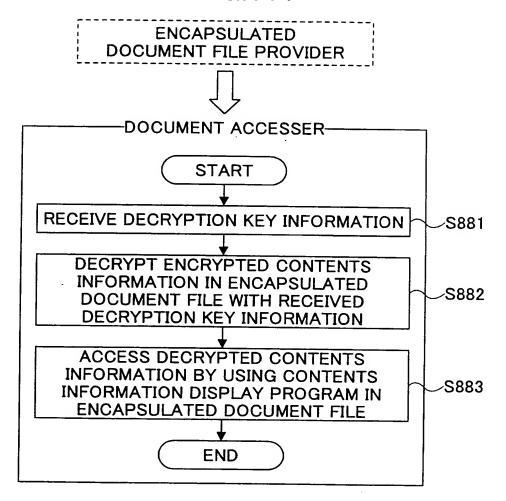
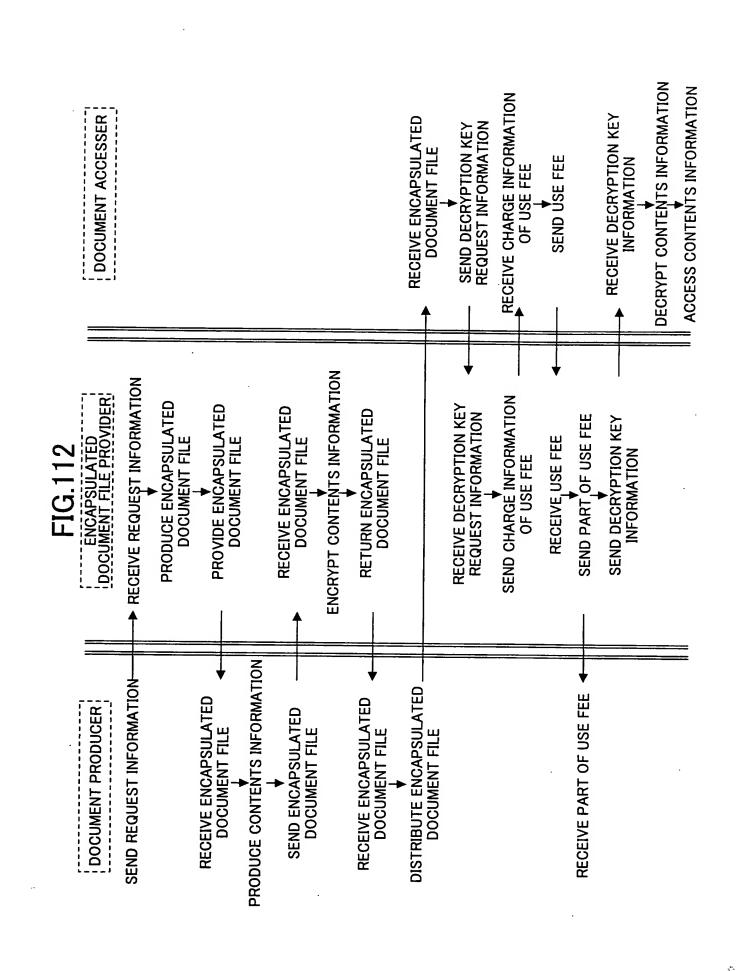


FIG.111



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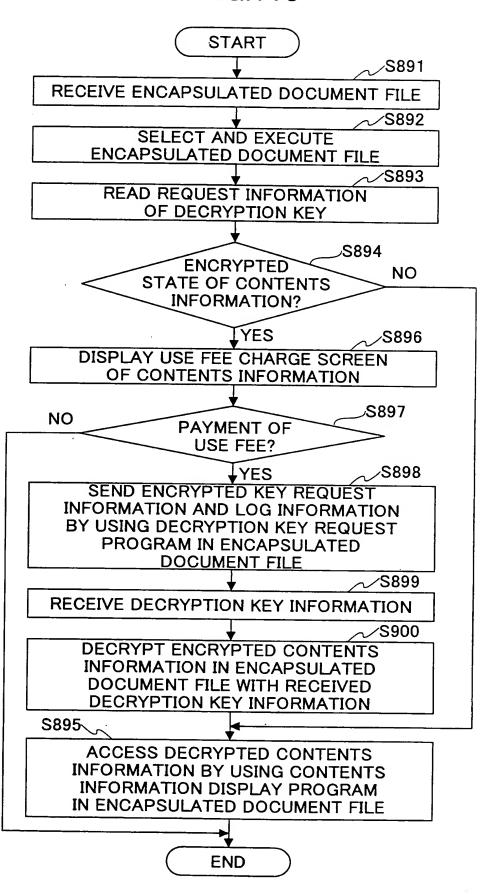


FIG.114

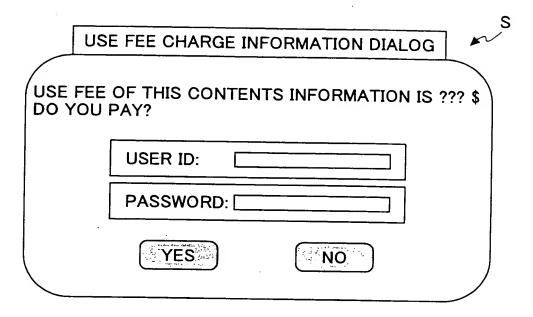
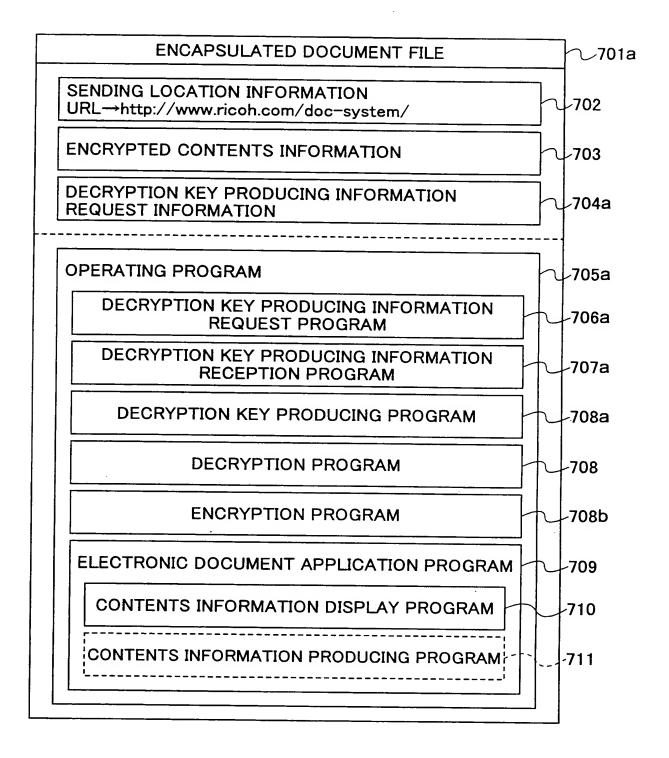


FIG.115



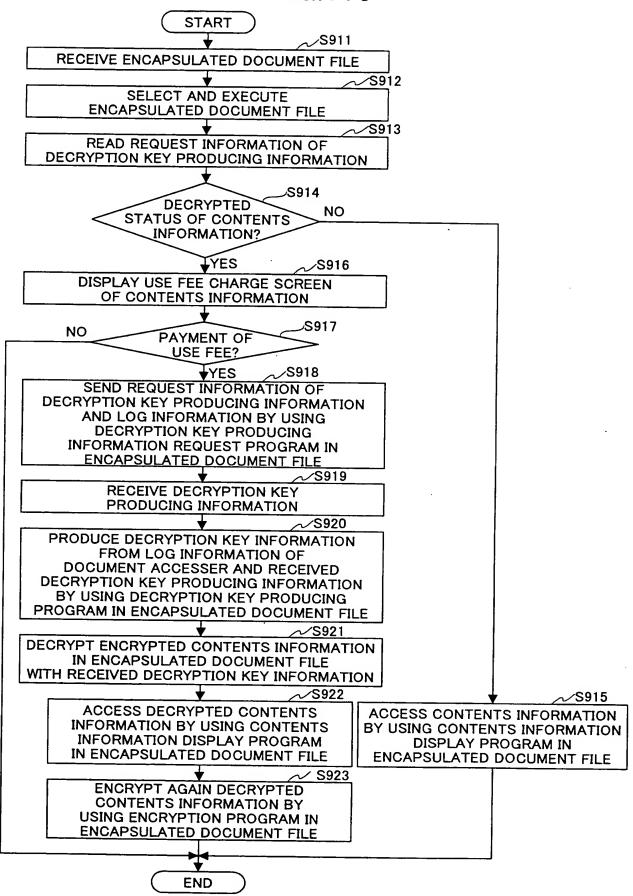
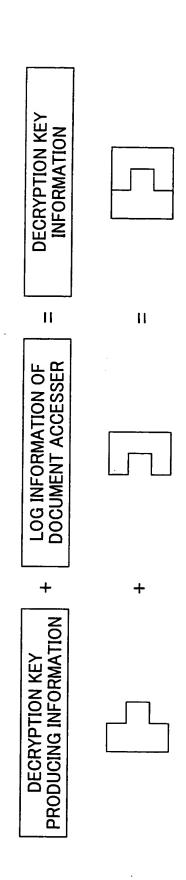
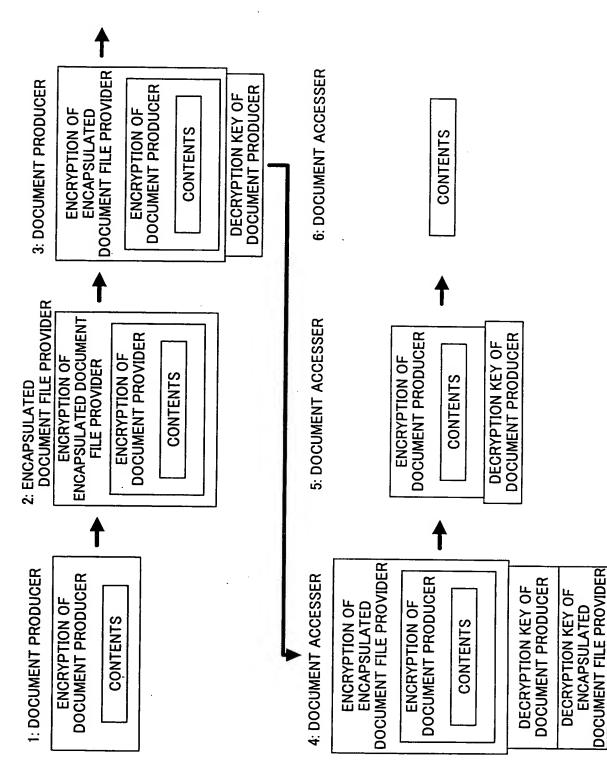


FIG 117



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